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*The Second Dr. Murray S. Danforth Oration**

THE UN-UNITED HIP FRACTURE

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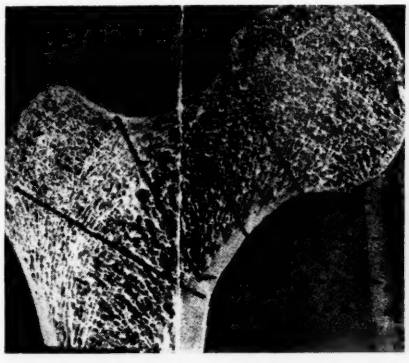
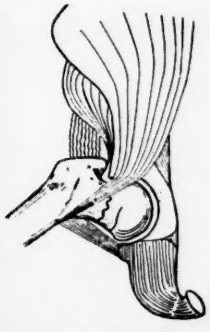
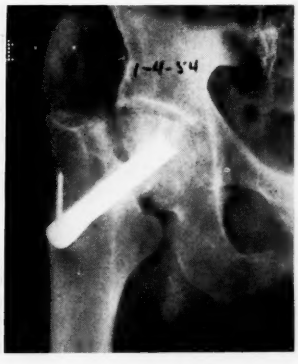
WE HAVE ALL SEEN the united neck fracture complicated by head necrosis. We have seen patients with un-united hip fracture uncomplicated by head necrosis and the un-united hip fracture complicated by head necrosis.

These problems of aseptic necrosis and non-union develop from a number of factors. All are initially from trauma. Some factors causing these complications, we feel, can be controlled. In others, we feel baffled to explain why non-union and/or the head necrosis occur. Some cases we strongly suspect have been caused by the original vascular damage at the time of the fracture. Of course, the problem may also have been produced by inadequate treatment. It must, however, be admitted that we all have cases occasionally that go on to non-union and/or necrosis under whatever form of treatment we have employed and which, on reviewing, have received as near ideal treatment as we could offer. However, it is certain that the nearer the head the fracture occurs the more probable non-union and/or head necrosis will result (Figure 1).





Reduction by the abduction method.



FIGURES 1, 2, 3

FIGURE 1. Delbet's classification is a simple regional method of identifying hip fractures; (1) subcapital, (2) transcervical, (3) cervico-trochanteric and (4) intertrochanteric.

FIGURE 2. Illustrating the essential anatomical features of the closed Whitman abduction method which stresses accurate reduction. After reduction, the limb is held in wide abduction, internal rotation and full extension by a plaster spica.

FIGURE 3. Roentgenogram illustrates non-union, neck absorption, head necrosis, shortening and outward rotation of limb.

We feel that the early adequate reduction and adequate fixation in its transcervical and cervico-trochanteric types of fractures do not often present complications of non-union and necrosis. Unquestionably, though many surgeons depend too much upon the integrity of the nail and not enough upon the roentgen evidence of bony trabeculi crossing the site of the fracture, when advising early weight bearing, and this certainly can be the cause of future trouble.

Recognition of this fracture is as old as Hippocrates and its baffling facets have been recognized for many years, but it is only since the introduction of the X ray that one has intensively studied its complications. Unfortunately, today, even in spite of our excellent roentgen pictures, I dare say that the lateral film, both pre-operatively and post-operatively, gives far less information than is de-

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*Delivered at Rhode Island Hospital, Providence, Rhode Island, November 6, 1958.

sired, both as to the clarity of detail and the displacement of the fragments. In addition to a helpful history and to early adequate treatment, fracture at the hip is not followed by a high percentage of solid bony union without complications. My impression, without statistics to back it up, from observation alone, would lead me to believe that the subcapital and transcervical fractures, treated in the best clinics in this country, are followed by a high percentage of non-union and aseptic necrosis. Boyd and George, in an excellent paper in 1947, reviewing 300 acute central fractures of the neck of the femur, found that only 43.6% showed a good end-result, and that the total number of follow-up patients with severe arthritic changes in the hip exceeded the number of non-unions. In fact, non-union is so high in the subcapital type fracture that I am pessimistic about obtaining bony union by any means and feel that the patient is saved time, expense, worry and non-union if some type of prosthesis is inserted or some type of reconstruction operation is done as the initial treatment. About the transcervical type, I am not so pessimistic, and feel that with ideal treatment this type of fracture gives excellent results in somewhere between 75 to 85 per cent of the cases. It must be recognized that this fracture occurs mostly in the elderly patient and that senility, previous inactivity, and frequent malnutrition is the soil upon which the fracture is ingrafted.

The first decision of the physician called upon to treat this type of fracture is that of saving life, and second, of being as sure as he can that the patient is a suitable candidate for an open operation, if it should be thought desirable. If an open operation is not possible or safe, we may use the closed Whitman reduction and abduction method with a long period of immobilization in a plaster spica (Figure 2). Undoubtedly, this method can and has given many good results, although statistically lower than the open operation method. The details of this method, with its many practical complexities, are not well known today and are not frequently practiced as Whitman taught. On the whole, the open operation, however, should and does give a better opportunity for anatomical reduction than the Whitman method.

When non-union is present, roentgenograms quite clearly demonstrate this, and the clinical tests of push and pull roentgenograms or placing the leg alternately in wide abduction and adduction will show whether the head moves synchronously with the shaft of the femur. Unfortunately, the decision as to the degree of aseptic necrosis present in the individual must be largely determined from the roentgenogram, both lateral and A-P, as pointed out many years ago by Santos. Films must be carefully studied to determine the type of operation best suited for the individual problem. They can be very informative in showing the width of the joint space, the regularity or irregularity indicative of cartilage destruction and arthritic change, the displacement upward of the greater trochanter and the degree of decalcification or sclerosis of the head (Figure 3). One or all of these conditions are frequently present. The general texture of the bone structure of the hip region should also be evaluated. A laboratory test that would determine the extent of the aseptic necrosis quantitatively would help us a great deal in the selection of the best operation. Unfortunately, this is not available today. In spite of studies with isotopes, in spite of the use of the various methods employed to determine the degree of vascular damage to the head at the time of injury, there is still great difficulty in determining the percentage of viable and non-viable bone present in the head of the femur suspected of aseptic necrosis. We can visually make a rough estimate of the degree of necrosis, but can we decide that the head is viable enough to preserve or diseased enough to make us discard it at the time of operation? This is a very important decision for the surgeon to make before deciding upon operation. This inability to determine the degree of bone viability is indeed fundamental. If bone viability could be determined accurately, there are many other cases of aseptic necrosis which offer problems to the orthopaedic surgeon: those occurring during the growth period, as Legg-Perthes disease, and other causes than fracture that produce head necrosis in adult life.

Clinical Picture

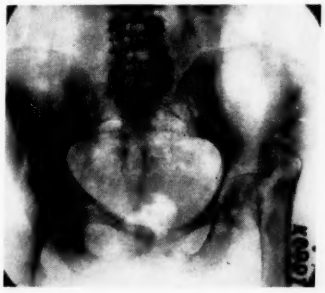
The clinical picture of these elderly people suffering from un-united hip fracture presents all stages of disability, from those who walk fairly well, with little pain and the aid of a cane, to those with severe pain, flexion, abduction, external rotation and contracture of the soft tissues, who require crutches or a wheel chair. As many of these fractures occur in the degenerative arthritic period of life, the adjacent knee joint must always be examined. Many times it proves to be quite a problem. Long plaster immobilization or long bed care renders the arthritic knees stiff and badly in need of rehabilitation. In the severe grade of the un-united hip with shortening of the lower extremity, we must consider the use of preliminary traction before any definitive surgery on the hip is attempted (Figure 4). If the hip has been shortened one or two or more inches over a period of years, and is in a flexed and adducted position, it is entirely too much to expect one procedure to rehabilitate the patient. Stretching of the hip and sometimes the knee, soft tissue tenotomy, traction and muscle exercises without weight bearing, must all be seriously planned before

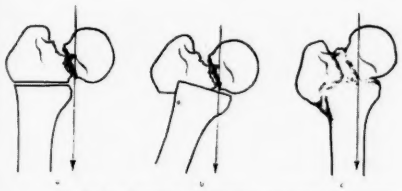
the patient is subjected to an open operation on the hip.

Operative Treatment

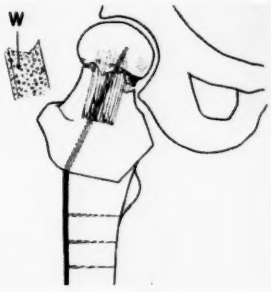
If the decision has been reached that the necrosis of the head is of such a degree that it cannot be retained, and that we cannot hope to revascularize it, then operations such as the very valuable McMurray osteotomy (Figure 5), the Dickson geometric osteotomy (Figure 6), the Schanz operation (Figure 7), the Brackett operation (Figure 8), or the Magnuson modification can all be eliminated, as they are not applicable to the problem at hand. We must, therefore, consider some type of operation by which the necrotic head is removed, with the use of 1) a prosthesis, 2) some type of reconstruction and 3) the rarely used fusion type of operation. It hardly seems necessary to say that in the treatment of the un-united hip, there are a great number of procedures which will assure stability and mobility. The wise surgeon tries to be familiar with all, so that he can choose the procedure best suited to his particular patient. In brief, operations fall into two categories; those in which the head can be preserved in the expectation that there will be adequate blood supply to revascularize it, and second, those that discard the head in the belief that the necrosis is so extensive that revascularization will not occur.

Within the past ten years, the prosthesis method has gained a great deal of attention. First, the Judet stem-type of prosthesis, which caused a fever of enthusiasm a few years ago, and probably still has a limited place in the patient with non-union and aseptic necrosis, must be considered (Figure 9).





The three steps of an intertrochanteric osteotomy.

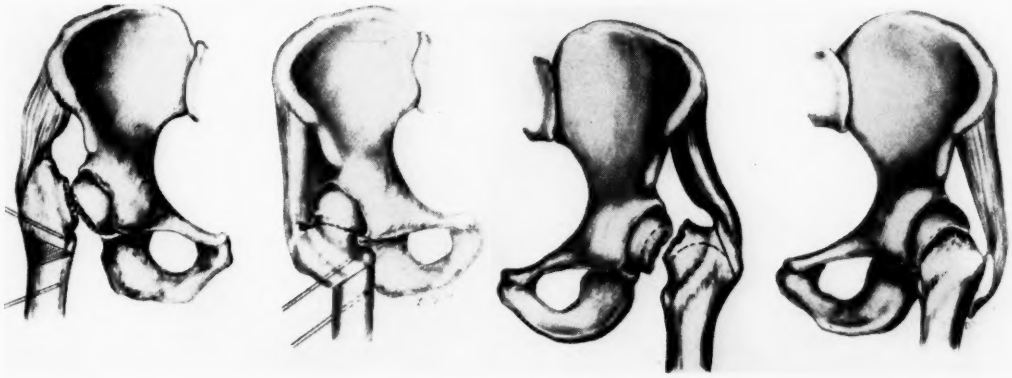


FIGURES 4, 5, 6

FIGURE 4. Roentgenogram illustration showing severe deformity. Patient had not been out of a wheel chair for a year and a half. Preliminary traction was necessary preliminary to trochanteric reconstruction operation.

FIGURE 5. Diagram illustrating principle of McMurray osteotomy.

FIGURE 6. Diagram illustrating principle of Dickson geometric osteotomy.



FIGURES 7, 8

FIGURE 7. Diagram illustrating principle of Schanz osteotomy.

FIGURE 8. Diagram illustrating principle of Brackett operation.

Second, the intramedullary type of prosthesis, of which there are many types, and which, in the past few years, has become very popular. There are many varieties of this intramedullary type of prosthesis (Figure 10). Personally, I have leaned toward the Fred Thompson type and have had most of my experience with this (Figure 11). In the really elderly patient and in the patient who is not faced with strenuous physical activity as a wage earner, this latter prosthesis has been remarkably successful. We have reserved it almost entirely for the above type of patient, as we find that the man

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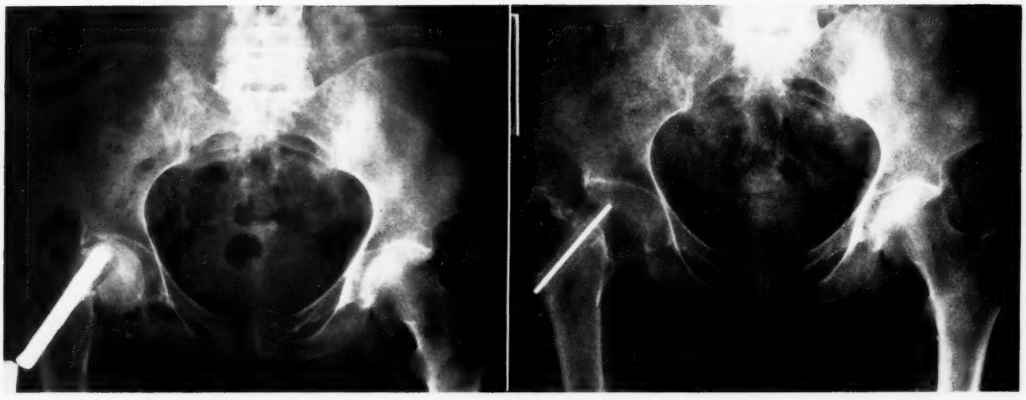
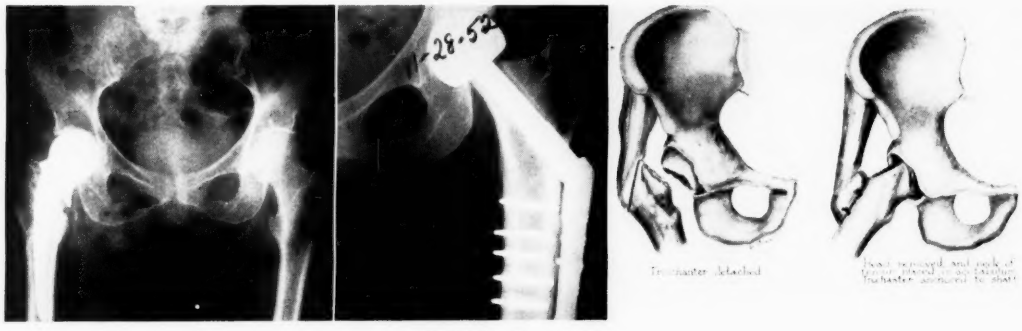


FIGURE 9

FIGURE 9. Roentgenogram showing Judet prosthesis *in situ*. Before and after operation.



FIGURES 10, 11, 12

FIGURE 10. Roentgenogram showing Thompson prosthesis.

FIGURE 11. Roentgenogram showing Collison prosthesis. Here the tremendous shearing force may be sufficient to break screws and cause removal of prosthesis. Trochanteric reconstruction may salvage hip.

FIGURE 12. Diagram showing technique of Whitman reconstruction operation.

in his 50's or 60's, who anticipates a period of further physical activity, is not satisfied with the prosthesis. The period of convalescence for the intramedullary prosthesis is moderately short, the range of final motion is quite good for the elderly patient, 70 to 80 and up, and very important; there results an immediate degree of mobility that will permit putting on stockings and bending the hip in the various activities consistent with the age of the patient. As yet, many questions concerning erosion and post-operative pain are unanswered, and the late results in many of these patients, are not available because of the short life expectancy of these old people.

It is in the young, more active age group, that I feel the Whitman operation (Figure 12) or the trochanteric reconstruction operation, has a very real place (Figure 13). Another use for the trochanteric reconstruction operation is after the unsuccessful prosthesis. For some reason, a few patients having had a prosthesis inserted, have developed a great deal of pain on weight bearing. The reasons for the pain are hard to explain, but it has been a persistent complaint in a few cases and the surgeon is forced to remove the prosthesis. In these cases, the trochanteric reconstruction operation has been of great help.

The Whitman operation is not difficult to perform. It assures stability, a very limited amount of mobility, but it is better than an intentionally fused hip. We feel that this operation, although not as popular today as it was fifteen years ago, is still an excellent operation in selected cases. The two main difficulties seem to us to be the increased shortening of an already shortened extremity and the extreme limitation of motion, post-operatively.

It was for these reasons mainly that many years ago, we advocated removing the head and all of the projecting neck and placing the greater trochanter deeply into the acetabulum, making a new insertion for the hip abductors lower down on the thigh while the limb was held in wide abduction (Figure 14).

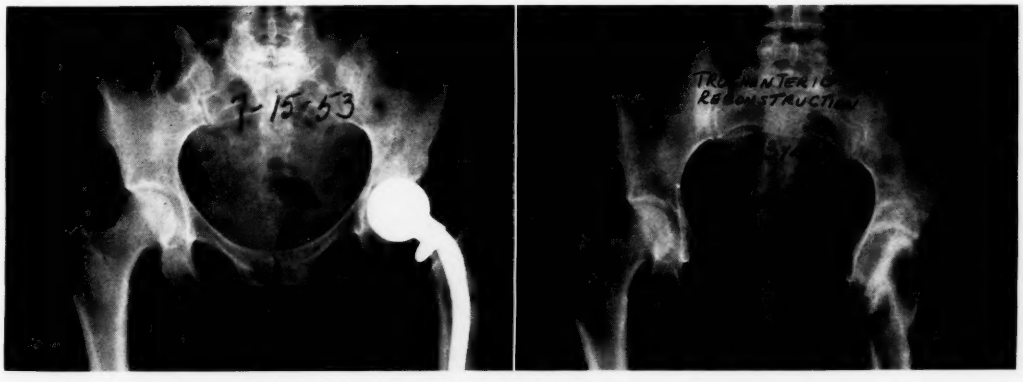
FIGURES 13, 14, 15

FIGURE 13. Roentgenogram showing before and after the trochanteric reconstruction operation.
FIGURE 14. Diagram illustrating technique of the trochanteric reconstruction operation.
FIGURE 15. Roentgenogram showing restoration of stability and increase in length 11 months following trochanteric reconstruction operation. See Fig. 3 for pre-operative roentgenogram.

This operation is a bit more difficult than the Whitman, but it does achieve length whenever the greater trochanter has ridden above the acetabular level, which is very common. The length of plaster immobilization, four weeks, post-operatively, is approximately the same in both operations, but we have been accustomed to trim out the plaster over the posterior aspect of the foot and leg, so that while the patient is lying on his abdomen, he may start moving the knee as early as two weeks after the operation. As stated before, the stiffness and pain in the knee has been at times a real complication in rehabilitating these people. The posterior plaster shell over the leg is, of course, strapped back into position when the patient is lying on his back.

The convalescence of these patients is important and when the plaster is removed, at the end of four weeks, a sandbag or hard pillow should be placed between the abducted legs to prevent the limbs swinging into adduction. When overhead suspension is used, the limb should be swung actively; this sandbag maneuver will guard against redislocation during the following three or four weeks after the plaster shell is removed completely. The patient is instructed in his abductor exercises while lying on a firm mattress. We like to get the patient ambulatory and weight bearing 6 or 7 weeks after the original operation: first, using a walker, then a crutch and later a cane; many walk without any external support. We have followed many of these cases for years (Figure 15 and Figures 16a-b).

The last surgical treatment for the un-united hip fracture which will be mentioned is fusion of the hip. This is rarely indicated unless there is a severe arthritis. This may presuppose that free motion at the hip will, post-operatively, give severe pain with marked stiffness. The elderly patient, however, does not tolerate long immobilization and this is necessary to obtain solid bony union. We estimate that fusion of the hip requires between 6 to 10 months in a plaster spica for the average case and for this reason, if none other, we prefer to avoid trying to fuse these hips.



FIGURES 16a, 16b

FIGURE 16a. Post-operative roentgenogram showing Eicher prosthesis *in situ*. Persistent pain on weight bearing necessitated its removal.
FIGURE 16b. Post-operative roentgenogram 3 years following trochanteric reconstruction operation in Fig. 16a.
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TOXIC REACTIONS TO IODINE

ALTON M. PAULL, M.D.

The Author. *Alton M. Paull, M.D., of Pawtucket, R. I. Assistant Physician, Rhode Island, Pawtucket Memorial and Miriam hospitals.*

IN A RECENT ARTICLE by Sussman and Miller,[1] two patients were reported who developed swelling of the salivary glands following intravenous urography. In one of these patients, enlargement of the parotid gland occurred two days following the administration of 30 ml. of diatrezoate sodium (Hypaque). The other developed bilateral swelling of the submaxillary glands after the use of 20 ml. of sodium methyl glucamine diacetlyamino triiodobenzoates (Renografin). Peacock and Davison[2] reported that in 502 asthmatic patients, 16.1% had sufficient reactions to inorganic iodides to warrant discontinuance or sharp reduction of their medication. These reactions were physiologic ones from overdosage, or similar symptoms occurring at lower dosage due to over-reactivity on the part of the individual.

I have recently observed three patients who developed toxic reactions to iodides. In addition, four patients were observed at the Veterans' Hospital in Providence, Rhode Island, and these case histories were forwarded to me. In two patients, enlargement of the submaxillary glands occurred following the administration of a saturated solution of potassium iodide. In two others, Calcidrine,® a cough mixture containing 910 mg. of calcium iodide, anhydrous, per thirty cc. was the agent responsible for the glandular enlargement. This substance has no feature that would not pertain to other iodine preparations, except perhaps that the calcium iodide is prone to liberate iodine more readily than the other salts.[3]

The sudden appearance of an enlarged, tender left cervical lymph node was noted in one patient, following intravenous pyelography, and in another patient, a severe serum sickness type of reaction developed, following the use of a saturated solution of potassium iodide. More recently, I have encountered a patient who developed an erythema and pounding headaches after the use of KI.

The following are brief summaries of the patients observed who have had reactions to iodine.

Case Number 1

H.M.: A twenty-nine-year-old white male was first seen on February 4, 1957, complaining of vague, upper anterior chest pain of three weeks' duration. These pains were constant, dull and aching in character, and not associated with exertion. He also complained of a chronic, severe, productive cough. In 1948 he was hospitalized for a spontaneous pneumothorax. No further attacks occurred, but with the development of chest pain, he was concerned over the fact that might have developed another pneumothorax.

The physical examination and laboratory data were entirely normal. An expectorant, Calcidrine, was prescribed and he was advised to discontinue smoking. The following morning, a painless swelling of both submaxillary glands developed without fever, chills or general malaise. Examination at this time revealed the submaxillary glands to be enlarged to the size of plums. The white blood count and differential examinations were normal. He was advised to discontinue the Calcidrine and within three days the enlarged glands had completely abated. The following week he resumed taking the iodine preparation and a similar course of events recurred.

Case Number 2

A.M.: A sixty-five-year-old white male was admitted to Veterans' Hospital, Providence, Rhode Island, for treatment of chronic bronchitis and pulmonary emphysema. He had a long history of a chronic cough, productive of small amounts of colorless sputum. Physical examination revealed the patient to have clubbed fingers and an emphysematous chest. The lungs were hyperresonant to percussion and there were coarse rhonchi scattered throughout the lower lung fields posteriorly. Ten drops of a saturated solution of potassium iodide was administered in water three times during a twelve-hour period. The following day he developed swollen submaxillary glands. The iodine medication was discontinued, and within two days the swelling subsided.

Case Number 3

L.L.: A sixty-eight-year-old white male was admitted to the Veterans' Hospital, Providence,

Rhode Island, with a similar story as in Case Number 2. The physical examination was consistent with a rather marked pulmonary emphysema. Ventilatory studies revealed an obstructive type of defect. He was placed on S.S.K.I. as in the above case. The following day he developed bilateral swelling of the submaxillary glands. Again the iodine medication was discontinued, and within two days the swelling subsided.

The following case is of additional interest because of the fact that an organic preparation was given intravenously, resulting in the enlargement of a solitary lymph node in the neck.

Case Number 4

W.B.: A fifty-six-year-old white male was admitted to the Veterans' Hospital in Providence, Rhode Island, with the chief complaint of right flank pain of several hours' duration. The following day an intravenous pyelogram was performed with diodrast. Within twenty-four hours, an enlarged, tender mass was noted in the left neck region. This was thought to be an enlarged lymph node along the sternocleidomastoid area. The iodine preparation was discontinued, and by the following day, the lymph node had disappeared.

Case Number 5

L.S.: A sixty-one-year-old white male entered the hospital because of chronic cough and wheezing of twenty years' duration which became worse the past few days. He had no seasonal incidence, but the difficulty was present throughout the year. The patient raised mucoid sputum except during acute respiratory infections, at which time it became green. He had been a heavy cigarette smoker for most of his life. Physical examination revealed a thin, dyspneic male with an audible wheeze. The chest was increased in its A-P diameter and was hyperresonant to percussion. Auscultation revealed bilateral wheezes and coarse rales at the lung bases posteriorly. The laboratory data were not remarkable except for the sputum culture which showed a S. Albus.

Pulmonary function studies were indicative of an obstructive ventilatory defect. Initial treatment consisted of aerosal therapy with nebulization of neo-synephrine, aminophylline suppositories, and a saturated solution of potassium iodide. On the third hospital day, the patient complained of a sore throat, and developed a temperature of 102 degrees F. Penicillin and streptomycin were given without any effect. Repeated chest X rays and throat cultures failed to show any pathologic organisms or parenchymal infiltrate to explain the fever. Anorexia, nausea and diarrhea were then noted. By the fifth hospital day the fever had risen to 103 degrees F. Physical examination at this time revealed the additional findings of scattered papular and pustular lesions on the face and trunk, a diffusely red throat and enlarged tonsillar glands. Several stool cultures were negative.

At this time, the diagnosis of iodism was made, and sodium chloride was administered by intravenous drip. Within two days, the temperature had returned to normal and the gastrointestinal symptoms subsided.

The above case exemplifies the difficulties that may arise in establishing the diagnosis of iodine hypersensitivity in those patients who, in addition, have chronic lung disease. A general systemic reaction to potassium iodide was initially confused with superinfection of the respiratory tract. Antibiotics were given without affecting the fever, but with the occurrence of diarrhea, so that the diagnosis of a staphylococcal enteritis was entertained.

Case Number 6

T.G.: A forty-eight-year-old white male was admitted to the Rhode Island Hospital because of shortness of breath of twelve hours' duration. He had had two previous admissions for asthmatic bronchitis and pulmonary emphysema. For the past two months, he had been on a daily dose of 30 mgm. of meticorten, and in addition, epinephrine and susphrine as needed. A previous allergic workup had revealed that he was sensitive to eggs, milk, wheat, house dust, feathers and aminophyllin. Two weeks prior to the present admission, his cough became more severe and he developed tenacious yellow sputum. The physical examination revealed the temperature to be 99.2 degrees F. He was in acute respiratory distress and appeared exhausted. The chest was emphysematous, and there were inspiratory and expiratory sibilant rales scattered throughout both lung fields. The laboratory examination was not remarkable except for a moderate eosinophilia. A bronchogram showed the presence of a very mild tubular bronchiectasis involving the mesial segment of the right middle lobe. On admission to the hospital, vigorous treatment was instituted consisting of intravenous fluids, oxygen, isuprel by nebulization, reassurance, and a saturated solution of potassium iodide. The patient improved but developed a severe pounding headache which came on shortly after receiving the second dose of K.I. In addition, it was noted that he developed a marked flushing of his face, neck and upper part of his body. On further questioning, it was elicited that he had had similar reactions in the past and had been advised not to take any iodine preparations.

Case Number 7

B.F.: A thirty-six-year-old white male developed an upper respiratory infection with cough. Because of the increasing severity of the cough, he

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took some cough medicine (Calcidrine) that I had previously prescribed for his wife. He claims he took five or six teaspoonsful. The following day, I was called to see the patient when he became alarmed by the sudden appearance of "enlarged glands" beneath his jaw. On examination, I found him to have enlarged tender submaxillary and slightly enlarged and tender parotid glands. He was advised to discontinue the cough mixture and within three days the glandular enlargement subsided.

Discussion

Iodide preparations may be divided into three groups:

1. Inorganic iodides, such as saturated solution of potassium iodide and syrup of hydriodic acid.
2. Organic preparations, such as Organidin and Amend's solution.
3. Mixture of iodide with other drugs such as Quadrinal and Mudrane.

Iodine is readily absorbed from the gastrointestinal tract as iodide, following which it is mainly concentrated in the extracellular spaces with greatest concentration in the thyroid gland, mucous glands of the stomach, the salivary glands and in the lactating breasts of pregnant females.[4] Small amounts of iodides enter the red blood cells and may exchange with chlorides in the fixed tissue cells.

Excretion of iodide is chiefly by the kidney. The rate of clearance for iodide is much higher than for the other halogens.[5] Furthermore, in man, the renal excretion of iodide is uninfluenced by the amount of chloride demanding excretion. Attention should also be drawn to the fact that the symptoms of iodism are more apt to occur in the presence of impaired renal function.

The iodides exert few pharmacological actions. Even after intravenous administration of large amounts, there is no observable specific response. Neither the central nervous system nor the circulation is affected. The action of iodide on inflammation and diseased tissues is imperfectly understood.

Iodine reactions can generally be placed in two categories. First, there are the toxic signs and symptoms due to acute and chronic overdosage. Acute poisoning from an initial dose of the iodide is relatively rare, and even after intravenous injections, reactions are seldom seen. An occasional individual, however, may show a marked sensitivity; therefore, before iodide salts or organic iodine preparations are given by the intravenous route, the tolerance of the individual should be determined. The onset of acute iodide poisoning may occur immediately or several hours after the administration of the salt. Angioneurotic phenomena are the outstanding symptoms and edema of the larynx may lead to suffocation. Multiple cutaneous hemorrhages of the skin and mucous membranes may occur, but this is rare.

Chronic iodine poisoning, or so-called iodism, usually results from therapy with inorganic iodide compounds, and will occur in all persons if the dose is high enough. The symptoms include an unpleasant brassy taste, burning in the mouth and throat, with soreness of the teeth and gums and swelling of the eyelids and coryza. The person with a mild form of iodism presents the picture simulating an acute "head cold." Pulmonary edema may occur, particularly in the susceptible cardiac patient with early failure of the left ventricle. Inflammatory reactions involving the salivary glands, pharynx, larynx and tonsils may appear. Skin lesions are common. They usually are mild, acneiform in character, and distributed in the seborrheic areas. Rarely, a severe and sometimes fatal skin eruption (ioderma) may occur after prolonged use of iodides. Cachexia, fever, and depression have all been included in the clinical state known as "iodism."

In the second category are the signs and symptoms due to true hypersensitivity to the drug. In 1940, Barker and Wood[6] reported seven cases of severe iodism from the administration of iodides for hyperthyroidism. In addition to many of the symptoms mentioned above, the patients had fever, eosinophilia, and in one case, jaundice. In 1945, Rich[7] reported a patient with hyperthyroidism, treated with Lugol's Solution, who developed periarteritis nodosa. Davis and Saunders[8] reported a patient with purpura resulting from the use of potassium iodide. In 1947, Bechel[9] reported three cases of bullous ioderma, apparently originating from the administration of iodinated table salt and clearing with its discontinuance. In 1949, Ehrich and Seifter[10] reported a patient who developed thrombotic thrombocytopenic purpura following the administration of kelp containing iodine. Other authors have reported patients who developed periarteritis nodosa following the use of iodides. Weber-Christian's disease has been attributed to iodide sensitivity.[11]

To the above two categories of reactions, one more might be added. In 1953, Morgan and Trotter[12] reported two cases of theirs where myxedema occurred, apparently from the use of iodides. They concluded that myxedema rarely occurred with iodide administration, since the glands seemed to become tolerant of high doses of iodine and to evade the normal blocking actions. In 1956, Skagg[13] reported a case of transient myxedema, due to potassium iodide which cleared with discontinuance of the drug.

The occurrence of iodism, particularly of the submaxillary and parotid glands, is very interesting, and of several theories that of an anaphylactic response is the most likely.[3] The recent demonstration that cortisone alleviates iodism is in accord with, but does not prove a hypersensitivity basis for iodism.[14]

Enlargement of the salivary glands has been noted in a variety of diseases. Several authors have recently commented on the occurrence of asymptomatic enlargement of the parotid glands in patients with alcoholism and cirrhosis; the common denominator being malnutrition.[16,17] It has also been claimed that salivary gland swelling may occur in rheumatic diseases.[18] Other causes of salivary gland enlargement include hyperglobulinemic purpura of Waldenstrom, the Plummer-Vinson syndrome, pernicious anemia and Reiter's syndrome. Local disturbances include tumors, infection, calculi and ill-fitting dentures.[19]

The symptoms of iodism disappear spontaneously within a few days after the omission of iodide medication. Treatment, therefore, consists of omitting the drug and using supportive measures, as determined by the particular symptoms. Abundant fluids and increased sodium chloride may be of assistance in hastening iodide elimination. Iodism is only rarely fatal.[6] More recently, it has been shown that cortisone is helpful in alleviating the symptoms of severe iodide hypersensitivity and may also prevent the development of severe iodism.[15]

SUMMARY

Attention is drawn to the various toxic manifestations resulting from the use of iodides, and particularly the occurrence of enlarged salivary glands (Iodide Mumps). Awareness of the occurrence of salivary gland enlargement from iodide ingestion may save the patient considerable expense and the physician embarrassment.

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THE TELEPHONE THAT NEVER SLEEPS

*Presidential Address**

JOSEPH G. MCWILLIAMS, M.D.

The Author. *Joseph G. McWilliams, M.D., President, 1958, the Providence Medical Association.*

THE BYLAWS of this Association state very specifically that one of the duties of the president of the Providence Medical Association shall be to "deliver before the Association at the annual meeting an address with special reference to the work and needs of the Association."

As far as I know, the Association has no particularly pressing needs, and also as far as I know you have been made pretty much aware of the work of the Association in the past year through your attendance at our monthly meetings or through reading of the minutes of these meetings as published in the RHODE ISLAND MEDICAL JOURNAL. Because of this situation, one in my position has to cast about a little bit to find a subject that might be interesting and still come within the mandate of the bylaws by having some reference to the needs and work of the Association. Some of my predecessors in this office have been of the crusading type and have spent a good deal of work and conscientious effort in bringing before you some problem having to do with reform or needed change in some aspect of the work of the Association. Believe me, I am not a crusader, never have been and probably never will be.

I would like to bring before you an aspect of the work of this Association which has received, at least to the present time, very little publicity and acclaim. Certainly you are all familiar with the Medical Bureau of the Providence Medical Association—JAckson 1-2331. But just how familiar are you with the specific work which is carried out down below us in the basement of this building?

The Medical Bureau was opened in September, 1949, after several months of careful planning, by a committee headed by Doctor John G. Walsh and composed of Doctors William P. D'Ugo, E. Victor Conrad, Nathan Rakatansky and Henry S. Joyce, working with the executive secretary of the Association, Mr. John E. Farrell. The latter had actually originally broached the idea in 1939, but it was not considered feasible at that time because of the existence of private facilities. A poll taken in 1946 showed that a majority of the members wanted a telephone secretarial system run by the Association, but several more years were needed to get the Bureau into actual operation.

I wish all of you would do as I did, a couple of weeks ago, and stop by the Bureau's center downstairs. I am sure that you would be astounded, amazed and fascinated as I was at the work which is being done there. I happened to go in on a Wednesday afternoon, which is a busy time, and got an idea what these girls go through. I am sure that if I had to work in that atmosphere for more than just a few minutes, they would have to find some place for me in one of the wings over at the Chapin Hospital. These girls, however, seem to take it in their stride and take these calls all in the business of the day. Certainly it is to their credit, the credit of our Association and the committee responsible for instituting this Bureau, and especially to Mr. Farrell, who perhaps was the spark plug in starting this activity and certainly has done a lot in helping to maintain its good work and helping to carry on its high standards.

Just a little bit about the physical set-up of the Bureau. The actual switchboard allows for five positions—in other words, five operators can be on duty at one time in order to handle the flow of calls coming in. Originally it was only for three positions, and seven operators covered the needs of 165 physicians. Now we employ seventeen operators and serve 383 doctors. It may surprise you to know that they average about 2750 calls a day of all types, incoming calls, referrals, etc., and on Wednesdays and some other days, particularly following holidays, the total rises to as high as 3500 calls in one twenty-four hour period.

The volume of this work is almost beyond comprehension unless one actually sees it being carried out. The handling of this work is done expertly and with such ease that it seems simple and routine. Yet each one of these calls is a very definite problem and challenge to the operators twenty-four hours a day, day in and day out. This is a great service to you—you are entitled to it for it is your

*Presidential address to the Providence Medical Association at its 112th Annual Meeting, at the Rhode Island Medical Society Library, January 5, 1959.

Bureau—but more so is it a great service to the public, which knows it can call upon this organization of ours at any time with the knowledge that its immediate medical problems, real or fancied, will be handled with dispatch.

The actual number of operators on duty at the same time is varied according to the work load. This is based a good deal upon past experience. Mrs. Beagan, who is the supervisor and has been with us since the inception of the service almost ten years ago, has very adequate and illuminating statistics which enable her to tell just how many girls she is going to need on duty. It takes about a year to train one of these operators so that she can handle your individual needs and also take care of the public at large when it calls into the Bureau directly. As I understand it, if a new girl is taken on, she is more or less on probation for about three months. Most of the operators have had former work with the Telephone Company and at least know something about the mechanics of the switchboard operation but certainly very little about this special type of service. According to Mrs. Beagan, who used to be with the Telephone Company, there is no comparison. Some of the girls just "can't take it" and have to go on to some other pursuit. This, to me, is understandable. I am sure I couldn't have taken it for even a day at a time. There is not a great deal of actual physical work, but most of the girls are fatigued at the end of the day; and this is believable since they are under a good deal of strain. They feel their responsibility quite definitely and certainly discharge this responsibility in practically all instances with commendable results.

At the present time we have 383 doctors who subscribe to the Medical Bureau, and in addition to this we have a few who use the listing in the telephone book: "If no answer, call JAckson 1-2331." I think it is interesting to note that the Bureau has a direct line with the Providence Police Department central office, and through this direct connection we are then able to contact the rescue squad and, of course, the police on detail throughout the city. There has been a wonderful spirit of co-operation between the police and fire departments with our Bureau, and I think we can consider this a more or less admirable set-up. There are also direct lines to the five major hospitals which provide an important link in the complete emergency coverage of the entire city. I think the designation of "the telephone that never sleeps" is an excellent description of the Medical Bureau.

Emergency calls have been in the past, and will continue to be, a big problem for the Bureau. When the Bureau was first started, several methods were attempted in trying to work out emergency coverage. One of these was to request doctors to take emergency calls in certain areas of the city, divided off arbitrarily into zones; but this did not work out too well. The other was to have a certain doctor on call one day of the month, at which time he would be obligated to take emergency calls, but there were times when this was not feasible. More recently the younger men entering into practice have been encouraged to take on this work, and indeed I know that the taking of emergency calls from the Bureau has, in many instances, provided a good nucleus for a successful practice for a young physician.

In a recent survey of similar facilities in nine cities carried out by Mr. Farrell, it was noted that our Medical Bureau stands out as one of the finest in the nation operated under the supervision of a medical society. We seem to have a better-organized program and make more calls monthly than telephone exchanges in other comparable areas, and our emergency call system seems to be much more effective. In the past years Mr. Farrell has made several surveys of emergency calls made by the public to the Medical Bureau. One of these has been published and is familiar to you. Another was a special report to the Executive Committee made in October of 1956. These reports indicate what you and I know quite well, that most emergencies are not emergencies, but nevertheless we all know that we more or less have to take this sort of thing in our stride. The one true emergency that we answer and take care of, many times justifies the other non-emergencies, which we are obliged to take care of. The operators, after their many years of experience, are pretty sharp in detecting and ferreting out by careful questioning just what the actual situation is. Of course, they are lay people and are not qualified to decide entirely what constitutes a true emergency. Many times, because of repeaters, and from past experience, a police car is asked to go and actually investigate. In many instances these are found to be nuisances or drunks, etc. If there is any question in their minds, of course, the operators contact a doctor. Often the physician by talking to the caller on the telephone can resolve the problem, but in many instances a house call is necessary. The actual financial return from these calls leaves much to be desired, but I think it is important to point out that these calls are made by the volunteer physicians with the idea that their being paid is entirely secondary.

The unwritten records of our Medical Bureau could furnish some very interesting reports of behind-the-scene service that never won any particular public recognition or acclaim other than that these girls on the job, and the doctors answering the calls and, in many instances, the rescue squads, have a personal satisfaction in knowing that a job was well done and that perhaps someone's life was saved. There are many cases on file that could be cited here, but we usually treat the unusual with

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TRAUMATIC RUPTURE OF THE NORMAL SPLEEN

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ALTHOUGH THE DIAGNOSIS of traumatic rupture of the normal spleen is usually fairly obvious, it may on occasion be obscure. In those occasional cases, diagnostic peritoneal tap may be of considerable assistance.

The experience at the Rhode Island Hospital has been reviewed, a case in which diagnostic peritoneal tap was of lifesaving value will be presented, and the technique will be described.

Experience at the Rhode Island Hospital

Material • Over a twelve-year and eight-month period extending from January, 1946 through August, 1958, thirty patients with traumatic rupture of the normal spleen were admitted to the Rhode Island Hospital.

Age and Sex Distribution • As shown in Table 1, males outnumber females by an 11 to 4 ratio, and 56% of the patients were under the age of twenty. The sex distribution is similar to other published reports, but the age distribution is different in that most other series show the peak incidence to be in the second to fourth decades.

TABLE 1

A. Sex Distribution

Males	22 patients
Females	8 patients

B. Age Incidence

Years	0-10	11-20	21-30	31-40	41-50	51-60	61-70
No. of cases	9	8	2	2	5	3	1

Type of Trauma • Table 2 shows 93% of the cases associated with non-penetrating trauma. It is also interesting to note that only six cases, or 20% of the total, were associated with auto accidents.

Signs and Symptoms • The clinical picture associated with traumatic rupture of the spleen is well known.[6, 7, 8, 11] Abdominal pain associated with tenderness and spasm involving primarily the left upper quadrant was present in a high percentage of the cases in this series. Sixteen patients, or 53%, complained of shoulder pain, while twenty-two patients, or 73%, showed some evidence of shock. In only one patient was a mass palpable.

TABLE 2

Type Trauma

Non-penetrating	28 patients
Penetrating	2 patients
(Auto Accidents	6 patients)

Laboratory Aids • As shown in Table 3, a high percentage of the cases had a white blood count over 10,000, while only nine patients, or 30%, had a hemoglobin below 10 grams.

TABLE 3

Laboratory Aids

White blood count	*Above 10,000*	*Below 10,000*	*Not Done*
	24 patients	2 patients	4 patients
Hemoglobin	*Below 10 grams*	*Above 10 grams*	*Not Done*
	9 patients	20 patients	1 patient

X ray • X-ray evidence of an elevated left leaf of the diaphragm, obliteration of the splenic shadow with serration of the greater curvature of the stomach, or a left upper quadrant mass with or without displacement of abdominal organs may suggest injury to the spleen.[6, 10] Eight cases in this series showed roentgenological signs suggestive of ruptured spleen.

Diagnostic Peritoneal Tap • Five taps were done in this series. In three cases, blood was obtained. In these three, the procedure made the diagnosis. Unfortunately, the finding was temporarily disregarded in two of these cases until the patient's condition deteriorated to a point where diagnosis was even more obvious. This procedure will be discussed more fully later.

Time of Rupture • Forty-eight hours has been arbitrarily set as the time dividing rupture of the spleen into the primary and delayed type.[9] In this series, five cases were of the delayed type, giving a ratio of 5 to 1, which is consistent with most other published reports.[1, 4, 9, 14]

Associated Injuries • These are listed in Table 4. As is usually the case, rib fractures were the most common associated injury. It is also interesting to note that renal injuries were less frequent in this series than in some other reports.[11]

TABLE 4

Associated Injuries	Number of Patients
Rib fractures	6
Renal	3
Hepatic	2
Lung	2
Head	1
Colon	1
Stomach	1
Extremity fracture	1
Diaphragm	1

Therapy • There is little doubt that splenectomy is the treatment of choice for rupture of the spleen. This is borne out in this series by the fact that the only two deaths occurred in those patients not operated upon. Of the twenty-eight patients treated surgically, twenty-five had splenectomies, and three merely had repair of the splenic injury. The latter three recovered, but this procedure is not recommended. Thirteen of the operations were carried out through left-rectus incisions, while eleven were done through sub-costal incisions. Various incisions were used in the four other cases.

Morbidity • The complications associated with therapy are listed in Table 5. None was serious.

TABLE 5

Post-operative Complications	Number of Patients
Fever	16
Paralytic ileus	8
Pneumonitis	5
Atelectasis	2
Wound infection	2
Thrombophlebitis	2

Mortality and Analysis of Deaths • There were two deaths in the entire series for an over-all mortality rate of 7%, but there were no deaths in those 28 operated cases, an operative mortality of 0%.

One fatal case was a forty-three-year-old man with multiple severe injuries to the ribs, left chest, liver and spleen. The other was a sixty-eight-year-old man admitted with fractured ribs and fracture of the transverse process of the second lumbar vertebra. He was in good condition on admission, but suddenly went into shock and died approximately twelve hours after admission. Post-mortem examination revealed rupture of the spleen, with 2000 cc. of blood in the peritoneal cavity. The diagnosis was missed in this case and certainly could have been made if a diagnostic peritoneal tap had been done.

Case Presentation

Rhode Island Hospital #548903 • A sixty-year-old white female was admitted in September, 1955, with sudden, severe abdominal pain of one hour's duration, associated with sudden weakness and collapse. About one week prior to admission, patient had a slight fall, contusing her left chest. She had been treated symptomatically at home but had been up and about. During the four days prior to admission, she had noted increasing shortness of breath and weakness. She was seen by her doctor at that time who found her blood pressure to be 180/110. Past history revealed that she had had a spontaneous subarachnoid hemorrhage five years previously and had known hypertensive cardiovascular disease for which she had been receiving Raudixin. It was of interest that one year prior to admission, she had an X ray of her upper gastrointestinal tract for sudden episodes of abdominal pain. This had been reported as negative.

When the patient arrived in the Accident Room, she was in shock and no blood pressure was obtainable, but heart sounds were of good quality. She was given immediate blood transfusions and other supportive therapy with some improvement, her blood pressure being 126/78 and a pulse of 100 upon arrival on the ward. She was responsive at that time but very lethargic, and complained of no pain. Physical examination revealed her heart to be enlarged to the left, with a harsh systolic apical murmur and a regular rhythm. Her abdomen was obese, somewhat distended; no organs or abnormal masses could be felt; hypoactive bowel sounds were present; there was no fluid wave or shifting dullness, tenderness or spasm. Rectal examination was normal, and stool guaiac was negative. Good pulses were felt in both feet. There was no edema or cyanosis. Neurological examination was normal. *Lab Data*—Microhematocrit 25%, WBC 19,350 with 80% polys, urinalysis normal, BUN 22 mgm.%. CO_2 13 meq./liter, serum amylase 57 (normal value up to 50 in this laboratory). Chest and abdominal X rays were normal.

Following admission, her condition remained about the same, very lethargic, pale, blood pressure remaining about 120/80. In view of her past history, the differential diagnosis included a cerebral vascular accident, as well as hemorrhagic pancreatitis, mesenteric thrombosis, and dissecting aneurysm of the aorta. About six hours after admission, a diagnostic peritoneal tap was performed in the left lower quadrant and 15 cc. of grossly bloody fluid, which did not clot, were obtained. She was taken to the Operating Room; under endotracheal anesthesia, a splenectomy was performed for a lacerated spleen with evidence of an old subcapsular hematoma. Approximately 1,500 to 2,000 cc. of blood were present in the peritoneal cavity. Post-operative course was uneventful except for a superficial thrombophlebitis. She was discharged on the eleventh post-operative day.

This case represents a situation where diagnostic peritoneal tap clarified an obscure picture and allowed immediate, lifesaving surgery.

Discussion

The problems of diagnosis and therapy in pa-

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tients with traumatic rupture of the spleen have been reviewed on many occasions.[2,6,7,8,11,13] There is no disagreement that the proper treatment is surgical, and the proper surgical treatment is splenectomy. Conservative therapy carries a high mortality rate. The two patients in this series treated without operation died.

Diagnostic peritoneal tap has been mentioned in the literature on several occasions in regard to diagnosis of patients with abdominal trauma.[3,4,5,6,12,13,14] Five such taps were performed in this series. The case presented above is the most dramatic. In two of the cases, no blood was obtained, but the patients were operated upon because they exhibited the other signs and symptoms of ruptured spleen. At operation, blood was localized in the perisplenic area. This accounted for the negative taps. In the two remaining cases, positive abdominal taps were temporarily disregarded, and operation was delayed.

Technique • The urinary bladder is emptied, and the patient is placed in semi-Fowler's position. The abdomen is prepared with an appropriate antiseptic agent, a small skin wheal is raised in the left lower quadrant with 1% novocain. A number 18 or 19 spinal type needle attached to a syringe containing a small amount of novocain is used to perform the tap. As the peritoneum is entered, a small amount of novocain is injected in an effort to displace any intestine which may be close to the abdominal wall. The left lower quadrant has been the site of choice for this procedure because intraperitoneal structures are more mobile in this area. There have been no complications encountered by the authors in many such procedures. A positive tap proves intraperitoneal bleeding, whereas a negative tap is of little value; operation should never be deferred because no blood was obtained on peritoneal tap when the clinical signs point to splenic injury.

SUMMARY

1. The experience at the Rhode Island Hospital in dealing with traumatic rupture of the normal spleen has been reviewed. An over-all mortality of 7% was found, with an operative mortality of 0%.
2. A case in which diagnostic peritoneal tap was of assistance has been presented.
3. The diagnostic peritoneal tap is advocated as an aid in obscure cases.
4. The technique is described.

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THE UN-UNITED HIP FRACTURE

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SUMMARY

We have attempted a very brief review of some of the main operations available for treating the un-united hip fracture and to point out the advantages and pitfalls of these various procedures. In closing, it should be remembered that non-surgical methods have been stressed very little, but that they must be mentioned when we are discussing the whole problem. Occasionally, one sees a patient who gets along quite well with crutches or even with a wheel chair, so that conservative care must continue to have a place in the treatment of these patients.

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THE STATE WORKMEN'S COMPENSATION PROGRAM

IN THE PRE-ELECTION CAMPAIGN both major political parties announced in their platforms that they believe there should be a review of the state workmen's compensation laws. In January, Governor DelSesto announced that as the result of a "cabinet" meeting he had appointed a subcommittee of three state department directors to undertake an immediate and comprehensive review of the workmen's compensation law and its administration. Named as chairman of the subcommittee is the Director of Labor under whose direction the program to be studied is administered.

The promptness of the Governor in carrying out his political party's pledge is commendable. The major emphasis appears to center on a study of the feasibility of creating a state fund for the program, either as an exclusive fund or as one in competition with insurance companies.

Of far greater importance, at least from the viewpoint of the physicians of Rhode Island, is the wide application of certain phases of the present law, and the disregard of other provisions that provide effective controls. For one example, let us take the question of compensation for inguinal hernia. Doctors agree that indirect inguinal hernia arises, many times, from a structural defect which has existed from childhood. Nearly all individuals so afflicted would have developed hernias regardless of their type of work, or even if they had never worked at all. Nevertheless, in Rhode Island inguinal hernia seems always to be compensable, and insurance carriers no longer contest the problem.

Certainly some effort could be made by the administrators of the program to determine if the hernia was of recent origin or appeared suddenly; if its appearance was accompanied by pain; if it immediately followed an injury arising out of and in the course of employment; or if it existed prior to the injury for which compensation is claimed.

Again, take the matter of low-back strain.

In 1953 the Rhode Island Medical Society, of its own volition, introduced legislation to improve the medical phases of the workmen's compensation law, and included a provision calling for a special report on back injuries. When the entire act was revised and enacted in 1954, this provision was incorporated at the insistence of the medical society. After nearly five years under the new statute the medical advisory committee is yet to be consulted on the special back injury report, and apparently no attempt has been made to fulfill the intent of this provision.

Recent rulings of the Workmen's Compensation Commission have made coronary artery disease compensable if there is an acute attack while the patient is working. Such decisions should not be made without the most complete and exhaustive medical testimony, for the precedent established as a general rule not only proves costly to industry, but more particularly to the workers. Rhode Island doctors who are trying to rehabilitate their cardiac patients find that industry will not employ these

continued on next page

workers because of the compensable risk involved. The same attitude applies to any other illness that may again become active, and it is now difficult for any person so affected who is over the age of fifty to get employment. Yet such persons are employable.

Periodic review and revision of the statutes is advisable. The medical profession, which plays a major role in the Workmen's Compensation Program, acting through its Industrial Health Committee, worked with the various study commissions in the past and submitted worthwhile amendments. When legislative action was not forthcoming, the Society itself introduced legislation in 1953 that called for the appointment of impartial medical examiners, prompt filing of reports, the appointment of a full-time medical adviser, the establishment of a medical advisory panel to advise the medical director on the medical aspects of *any* case, the annual review of every case of total disability or severe permanent partial disability, and special reports concerning all back injuries.

Many of these provisions were incorporated in the revised statutes adopted by the General Assembly in 1954 when the Workmen's Compensation Commission setup was established.

Further amendments of the statutes may be warranted. However, we believe that more restrictive interpretation of the present law as regards its medical phases, the complete adoption of all provisions in the law, and a willingness to seek and accept competent medical advice and counsel from the appointed medical advisory committee, or beyond it, would be a greater contribution to the effectiveness of the program in the coming years.

THE MURRAY S. DANFORTH ORATION

In November, 1958, the Second Murray S. Danforth Oration was delivered at the Rhode Island Hospital by Doctor Paul Colonna, *professor emeritus,* of orthopedic surgery, at the University of Pennsylvania. The oration is delivered annually as the highlight of the speaker's three-day tenure as surgeon-in-chief of the fracture and orthopedic departments of the hospital. The oration represents part of a broad program of resident and intern training in these departments. It was made possible by the munificence of Mrs. Danforth who endowed, in memory of her husband, the Murray S. Danforth Fund for teaching and research in orthopedics.

Doctor Colonna was graduated from the Johns Hopkins Medical School. For several years he worked in New York City before going to the University of Oklahoma, where he remained as professor of orthopedic surgery until 1942, when he accepted a similar position at the University of Pennsylvania. He is past president of the American Orthopedic Association.

Following his oration, Doctor Colonna presented a film illustrating the trochanteric reconstruction described in the oration, and showing several patients, before and after operation. Although originated by him, and known generally as the Colonna operation, such is the characteristic modesty of this distinguished teacher, that nowhere in the oration does he speak of the operation as his own.

CANCER CONFERENCE — MARCH 18, 1959

In 1956, a panel on the management of patients with advanced cancer, was presented for Rhode Island physicians, by the Society's Cancer Committee. Another conference will be offered this year. A group of distinguished physicians from the Roswell Park Memorial Institute in Buffalo, New York, has accepted the invitation to give lectures at the Medical Library on Wednesday, March 18. The lectures will begin at two o'clock, and the four presentations will be completed in a three-hour period. This kind of postgraduate education is distinctly worth while for every physician. Assuredly, it is advantageous for Rhode Island doctors to be spared the time and expense of traveling to distant parts to learn of the most recent studies in the control of such an important disease as cancer. It is hoped that the Medical Library will be filled to capacity on March 18.

Lectures are to be on the following topics: Radiotherapy in Cancer; Some Aspects of Neoplasms of the Genital Tract; Cancer Chemotherapy; Immunological Aspects of Cancer; Cancer of the Gastrointestinal Tract.

The Roswell Park Memorial Institute is a state-supported hospital devoted to cancer therapy and research. It has a bed capacity of 300, and approximately 180 full-time staff members, including many outstanding scientists.

The Society's committee is to be congratulated on their success in securing the outstanding members of this hospital staff to journey to Providence to present what promises to be one of the most notable educational conferences in the long series which the Rhode Island Medical Society has sponsored through the years.

WHAT ARE THEY CHEERING?

According to Mr. Nims, director of the State Tax Bureau the 3% sales tax collected in November was $25,000,000.00.

The newspapers of Thursday, December 25th reported a State of Michigan deficit of $100,000,000.00.

At the beginning of the first world war the national debt was $1,000,000,000.00.

At the end of the first world war the national debt was $13,000,000,000.00.

concluded on page 108

WHAT ARE THEY CHEERING?

concluded from page 106

At the beginning of the second world war the budget of New York City equaled the total national budget of Japan excluding the Japanese military expense.

President Eisenhower in the State of the Union message predicted a balanced budget this year of $77,000,000,000.00 with 60% of it for military expenditures.

Our national debt is in round figures $275,000,000,000.00. It's like skipping along the Milky Way from end to end and measuring it in light years; a few billion dollars more or less means little.

A certain type of bomber the President said "costs its weight in gold."

To put a single big intercontinental missile in the field costs $35,000,000.00.

The State of Michigan is broke.

We are told that the Detroit city government is broke.

At the Detroit Club, Mikoyan, No. 2 man of the Soviet Union, spoke for two hours. At the end of his speech and at the end of the question period Russell Barnes of the DETROIT NEWS said he was given a standing ovation by the audience. The audience, the leaders of Detroit Business.

With these facts there is this paradox.

The President explained his budget's 60% of $77,000,000,000.00 for defense as due to the Russian military threat.

The men at the Detroit Club gave Mikoyan a standing ovation. These dominant men of industry, commerce and finance don't follow the Soviet Line.

What are they cheering?

... Editorial reprinted from the DETROIT MEDICAL NEWS of the Wayne County Medical Society, Jan. 26, 1959, Vol. L, No. 38

ATHLETIC INJURY SYMPOSIUM PLANNED FOR PHYSICIANS

A two-day symposium on *The Prevention and Treatment of Athletic Injuries* will be held on Monday and Tuesday, August 17 and 18, under the joint sponsorship of the Department of Physical Education and the Health Service of the University of Rhode Island.

The symposium, the first of its kind to be held on a major scale in New England, is designed primarily for all team physicians, athletic trainers and coaches of colleges, universities and public, private and parochial secondary schools in the New England, New York and New Jersey areas.

Doctor A. A. Savastano, Providence Orthopedic Surgeon, will serve as chairman of the medical section. The program will be under the direction of Professor Fred D. Tootell, director of the Department of Physical Education for Men, and Doctor S. J. P. Turco, director of the Health Service at the University.

CANCER CONFERENCE FOR RHODE ISLAND PHYSICIANS

Wednesday, March 18, 1959, at the Medical Library from 2:00 P.M. to 5:00 P.M.

Presented by members of the staff of the Roswell Park Memorial Institute for Cancer Therapy and Research, at Buffalo, New York

RADIO THERAPY IN CANCER
JOHN PARSONS, M.D.

SOME ASPECTS OF NEOPLASMS OF THE GENITAL TRACT
JOHN GRAHAM, M.D.

CANCER CHEMOTHERAPY
JAMES HOLLAND, M.D.

IMMUNOLOGICAL ASPECTS OF CANCER, AND CANCER OF THE GASTROINTESTINAL TRACT
JAMES GRACE, M.D.

Sponsored by the Cancer Committee of the Rhode Island Medical Society

PHYSICIANS SERVICE IN 1958

Report of the *President*, CHARLES J. ASHWORTH, M.D., to the Corporation of Rhode Island Medical Society Physicians Service, Tenth Annual Meeting, January 26, 1959

THE EXPERIENCE of Physicians Service continued favorable through the year 1958. Enrollment increased by approximately 16,000 members, bringing the total number of subscribers from 505,000 to 521,000. Dollar-wise, the amount paid in claims increased by $450,000 plus, or from $5,796,851.00 to $6,254,485.00. Just how uncomfortably narrow the margin was, however, is reflected in the net income added to reserves, $149,198.87. Operating cost is represented by 5.76%, still one of the lowest figures in the country.

The business and financial side of our plan is often the least understood aspect of its operation, yet nothing demands more expert direction and closer administrative attention. The need for emphasis in this area becomes clear when one realizes that a paramount obligation demands the maintenance of a sound balance between claims paid doctors, plus benefits rendered subscribers against premium income and basic operational costs.

Your treasurer's report confirms the fact that Physicians Service has continued to contain itself financially within the limits of premium income, while at the same time adding the benefits exceeding many comparable plans, yet wisely allocating annually something toward a necessary reserve. Full coverage for the mentally ill in the same category with other medical diseases is an example.

In the financial area as well as in the field of medical care, a modern progressive plan cannot be static. Its motion must be either forward or backward. Surely, Physicians Service is forward and, by the momentum of its past and present success, we hope will so continue.

It has been pointed out on a previous occasion that the evolution of a voluntary medical care plan is not without self-interest and sacrifice, hope and disappointment, and severe stress and strain, but ultimately achieving resolution in discussion and agreement. The greatest impetus to any progressive idea lies in the state of dissatisfaction it generates, not only in its novelty, but with the state of things as they are. Nothing of enduring merit ever evolves from timerity or conformance, and the prodigious and time-consuming efforts of each and all of you, throughout this past year, in your task of shaping an improved and better plan, bears ample testimony to this fact. The light that has been generated by those many meetings has far exceeded any heat the discussions provoked, and most certainly has been productive of a broader and more enlightened understanding of the problem by an ever increasing segment of our profession.

The occasion of this tenth annual meeting could well devote some time in retrospection, but the importance of any detailed review of this decade of progress for Physicians Service is actually inconsequential by comparison with a brief but highly speculative glance at the immediate future. The annual analyses of prepaid medical care plans is now bringing into sharper focus the difficulties people have in paying for this type of protection, and also the problems that face us in increasing the effectiveness of voluntary health insurance.

No one is more aware of the truism than the physician that, to do better, one must know more and more about what one is doing. Recent years have been a real challenge to the practicing doctor to keep abreast of medicine's scientific progress; similarly, medical economics has imposed a corresponding obligation to be well informed about the growth and development of prepaid medical care as it is now available. Current knowledge about the personal medical bill of an average American citizen, and its relationship to health insurance, is a must. These two areas of information are inseparable. The cost of health insurance is directly related to the incidence of medical care, or usability, as well as a plan's operational efficiency. The development of out-patient hospital, convalescent, and nursing home facilities propose new areas of coverage, and at an unknown cost.

Have we, at this time, any concept of the limit to which benefits of health insurance can be extended? Perhaps a categorical NO would be a safe, if not a completely correct answer, but it should be recognized that we are faced with one immediate aspect of this extension, namely, our over-65 citizens.

You must share my desire to develop, along with many other similar plans in the country, a mechanism by which all physicians will be able to offer coverage to the indigents of this group at a cost commensurate with their ability to pay. If it can be

done with co-operative effort, it should take precedence over any other project we are now contemplating.

The present economics of financing medical care through prepayment presents a twofold problem. First, the public view of health insurance and the method of financing. Second, public satisfaction with present benefits and the extension of benefits that can be developed.

If the medical profession is intent upon retaining initiative in matters relating to people's health and health insurance through prepayment, then I cannot escape the obligation, much less fail of this opportunity, to suggest that we, as a profession, must rise unitedly above the worn-out retreats of stereotype expressions, unrealistic negativism, and indefensible defiance of an altering social environment that this changing era has thrust upon us. Experienced inquirers have concluded, after soul-searching scrutiny of the problem, that this complicated structure of integration with third parties and new patient relationships projects the future of medical practice in a different perspective than we have ever known.

The destiny of our plan is in your hands, as have been its past achievements. This very evening will be decisive. It will forecast the intent of the medical profession locally, at least, to adjust to the cataclysmic effects of a changing era in the private practice of medicine.

Your directors of Physicians Service will continue unselfishly to support the fundamental policy of making available to our subscribers, all and any new benefits which can be offered but only in relation to commensurate financial increments to the servicing doctors within the limits of disbursable funds which, you know, derive from premium income.

May I express my personal thanks to the members of the Corporation, our executive director, Stanley Saunders, his assistant, Edgar Clapp, and their entire administrative staff for a year of tireless effort in assisting us to develop a new contract consistent with the success and progress Physicians Service has enjoyed these recent years. An especial word of commendation, may I utter for our Board of Directors, particularly the nonmedical members who have been so generous with their time to help us carry on so well this year. To the committees of the Board as well as the committees of the Rhode Island Medical Society, under the present meritorious leadership of Doctor Sargent, go my personal thanks for support, without which this report of progress would not be possible.

In conclusion, may I remind you of the extraordinary effort your directors have made to solidify our public relations through the recent series of advertisements in the daily papers of the state. While no accurate measurable standard of the success of this project is yet available, all indications to date point emphatically to wide approval and acceptance of our messages. To borrow a line from one of those recent appeals for better health care for more people through Physicians Service . . .

"If there were no Physicians Service, then what?"

VARIDASE* BUCCAL TABLETS

Streptokinase-Streptodornase Lederle

Controls Inflammation and Swelling...Relieves Pain... Promotes Healing Through Enchancement of Fibrinolysis at the Site of Trauma or Infection.

References: 1. Innerfield, I.; Shub, H., and Boyd, L. J.: New England J. Med. 258: 1069 (May 24) 1958. 2. Miller, J. M.; Godfrey, G. C.; Ginsberg, M. J., and Papastrat, C. J.: J. A. M. A. 166:478 (Feb. 1) 1958. 3. Davidson, E; Prigot, A., and Maynard, A. de L.: Harlem Hosp. Bull. II: 1 (June) 1958 *Reg. U. S. Pat. Off.

In Sinusitis

Helps promote drainage... hastens patient's relief... reduces mucosal swelling.[1]

Force Injuries

Contusions, and abrasions... reduces discomfort and improves cosmetic result.[1-3]

Sprains, Fractures

Helps reduce swelling and pain...speeds ambulation.[1-3]

TO ACCELERATE THE RECOVERY PROCESS

Established Efficacy and Safety: For five years VARIDASE, in parenteral form, has been used with success in many thousands of cases. Its ability to control inflammation, swelling and associated pain, aid penetration of antibiotics, and hasten healing has been demonstrated in such conditions as severe trauma, infected ulcerations, and following extensive surgery.

Now, Parenteral Effectiveness . . . Simple Buccal Route: New VARIDASE Buccal Tablets give your patients the benefits of systemic VARIDASE therapy without the inconvenience of repeated injections. Absorbed through the buccal mucosa in fully effective amounts, VARIDASE Buccal Tablets may be used as practical adjunctive therapy in your practice within these broad classifications:

Inflammation and edema associated with: trauma and infection • cellulitis • abscess • hematoma • thrombophlebitis • sinusitis • uveitis • chronic bronchitis • leg ulcer • chronic bronchiectasis.

Each VARIDASE Buccal Tablet contains 10,000 Units Streptokinase and 2,500 Units Streptodornase.

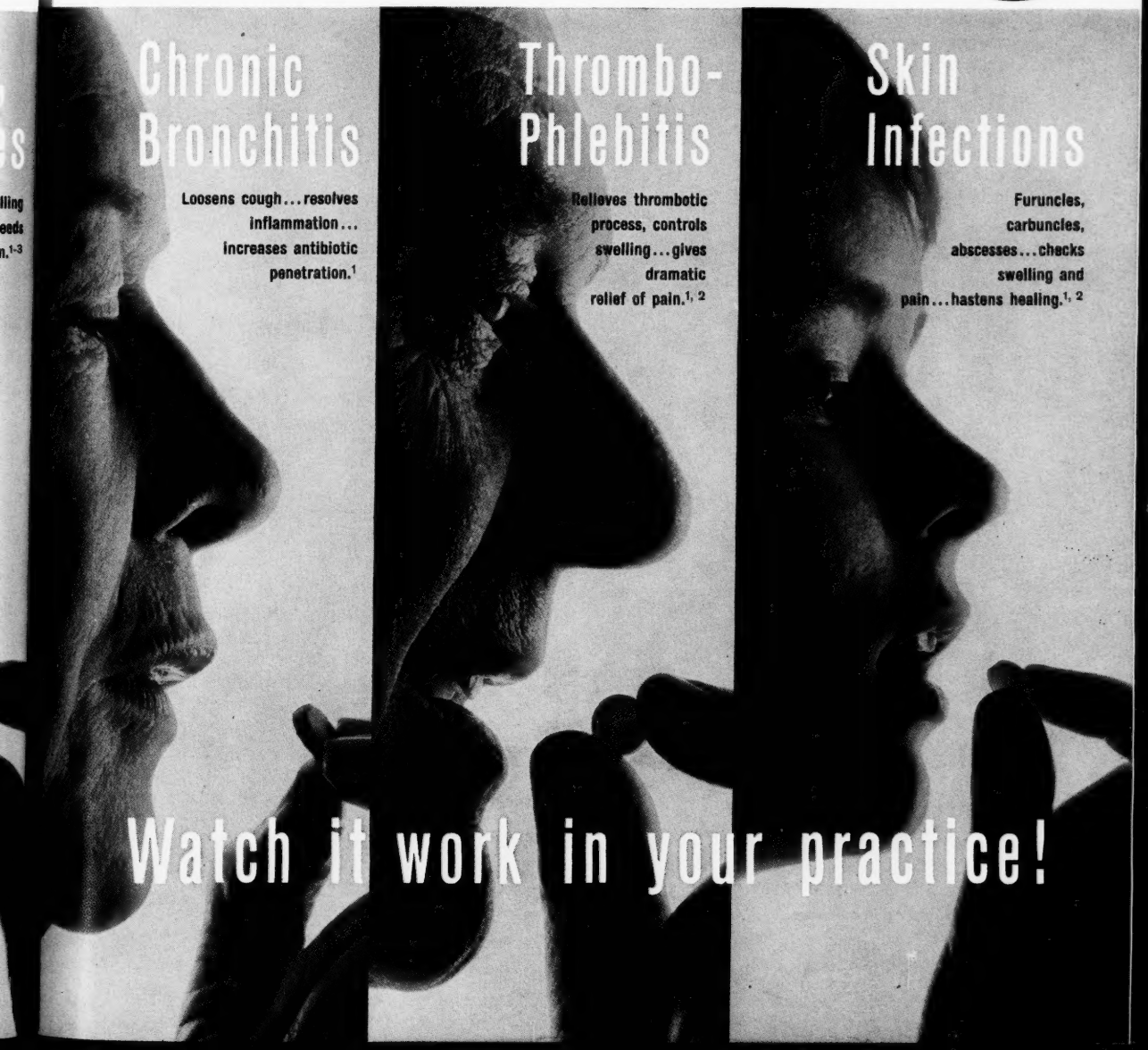
Administration: VARIDASE Buccal Tablets should be retained in the buccal pouch until dissolved. For maximum absorption patient should delay swallowing saliva.

Dosage: One tablet four times daily for a minimum of three days. When infection is present, VARIDASE Buccal Tablets should be given in conjunction with an antibiotic such as ACHROMYCIN* V Tetracycline and Citric Acid.

Available in bottles of 24.

*Reg. U. S. Pat. Off.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York



DISTRICT MEDICAL SOCIETY MEETING

PROVIDENCE MEDICAL ASSOCIATION

The 112th Annual Meeting of the Providence Medical Association was held at the Rhode Island Medical Society Library on Monday, January 5, 1959. The meeting was called to order by Doctor Joseph G. McWilliams, president, at 8:30 P.M.

Doctor McWilliams stated that the minutes of the previous meeting would be published in the RHODE ISLAND MEDICAL JOURNAL and that there would be no reading of them at the meeting unless there was a request.

Annual Report of the Secretary

Doctor Michael DiMaio, secretary, read his annual report, copy of which is made part of the official minutes of the meeting. The report was received and placed on file.

JOHN C. HAM, M.D.
President, 1959
The Providence Medical Association

Annual Report of the Treasurer

Doctor Frank I. Matteo, treasurer, read his annual report which was received and placed on file.

Presidential Address

Doctor Joseph G. McWilliams delivered his presidential address in which he reviewed the development of the Medical Bureau of the Association, and cited its outstanding service to the physicians and to the public in the greater Providence area.

Election of Officers

The secretary reported that no counter nominations had been received to the slate of officers nominated by the Executive Committee and submitted to the members early in December. He, therefore, moved the election of the slate of officers and delegates for 1959 as submitted by the Executive Committee, as follows:

Officers for 1959

President ..... JOHN C. HAM, M.D.
Vice President ..... IRVING A. BECK, M.D.
Secretary ..... MICHAEL DIMAIO, M.D.
Treasurer ..... FRANK I. MATTEO, M.D.
Trustee of Medical Library (1 year)
FRANCESCO RONCHESE, M.D.
Councillor to R. I. Medical Society
JOSEPH G. MCWILLIAMS, M.D.
Executive Committee (3-year terms)
BERTRAM H. BUXTON, JR., M.D.
FRANK D. FRATANTUONO, M.D.
JOSEPH G. MCWILLIAMS, M.D.
RALPH D. RICHARDSON, M.D.

Delegates to the House of Delegates of the Rhode Island Medical Society: Robert R. Baldridge, M.D.; Irving A. Beck, M.D.; J. Robert Bowen, M.D.; Alex M. Burgess, Jr., M.D.; Bertram H. Buxton, Jr., M.D.; Wilfred I. Carney, M.D.; Francis H. Chafee, M.D.; Harry E. Darrah, M.D.; Michael DiMaio, M.D.; William J. H. Fischer, Jr., M.D.; Henry B. Fletcher, M.D.; Frank Fratantuono, M.D.; J. Merrill Gibson, M.D.; John F. W. Gilman, M.D.; Seebert J. Goldowsky, M.D.; Stanley Grzebien, M.D.; John C. Ham, M.D.; Joseph Hindle, M.D.; Walter S. Jones, M.D.; Ernest K. Landsteiner, M.D.; Frank C. MacCardell, M.D.; Joseph G. McWilliams, M.D.; William S. Nerone, M.D.; Francis W. Nevitt, M.D.;

concluded on page 116

For 100 years, rain or shine, through peace and war, the world-famous Big Ben has faithfully proclaimed the hour to citizens of London

THINGS THAT ENDURE

Good things endure . . . a work of art, a literary classic, a proud bridge . . . a dependable pharmaceutical. Such is **Desitin Ointment.** For over 35 years Desitin Ointment has endured as an incomparable, safe way to prevent and clear up diaper rash . . . and as a soothing, healing application in wounds, burns, external ulcers and other skin injuries.

Desitin®

DESITIN CHEMICAL COMPANY Providence 4, R. I.

PROVIDENCE MEDICAL ASSOCIATION

concluded from page 114

Arnold Porter, M.D.; William A. Reid, M.D.; Ralph D. Richardson, M.D.; Carl S. Sawyer, M.D.; William J. Schwab, M.D.; James J. Sheridan, M.D., and Stanley D. Simon, M.D.

The motion was seconded and unanimously adopted.

Induction of New President

Doctor McWilliams named Doctors Alfred L. Potter and Robert R. Baldridge, past presidents of the Association, to escort Doctor John C. Ham, the new president, to the rostrum. Doctor Ham briefly thanked the members for the honor given him and expressed his hope that he would have the complete co-operation of everyone in carrying forward the work of the Association during 1959. At the conclusion of his remarks, he presented an inscribed gavel to Doctor McWilliams for the Association.

In accepting the gavel, Doctor McWilliams noted that through the years the procedure had been to present the outgoing president with an engraved gavel, but this year the Executive Committee had voted that the incoming president be given his gavel at the first meeting; and, therefore, for the Association he presented to Doctor Ham his gavel signifying his authority as leader of the Providence Medical Association.

Committee Reports

The president noted that committee reports would be published in the RHODE ISLAND MEDICAL JOURNAL but any chairman wishing to make a recommendation to the members could do so during the meeting. There were no recommendations made.

Applicants for Membership

Doctor DiMaio reported that the Executive Committee recommended for election to active membership Doctor George W. Anderson, of the Providence Lying-In Hospital. The motion was seconded and adopted.

Awarding of Membership Certificates

Doctor McWilliams awarded membership certificates to the members elected at the December meeting of the Association, and also to Doctor Anderson.

Scientific Lectures

The president introduced as the guest speaker Doctor James A. Watt, Director, National Heart Institute, The National Institutes of Health, Bethesda, Maryland. The doctor spoke on the subject *The Pharmacological Revolution.*

Doctor Watt reviewed the use of drugs for specific diseases. Until recently, he noted, these amounted to a very insignificant number. He mentioned morphine—a specific for pain, and quinine—a specific for malaria. The development of the chemotherapeutic agents — the sulfonamides, and the antibiotics — penicillin, streptomycin, tetracycline, etc., opened up new and vast avenues for research and treatment.

A major pharmacological revolution is now in progress in an attempt to solve cancer therapy. The speaker said that 30,000 to 50,000 compounds are being screened annually in cancer research. He predicted that *not one* but a *number* of compounds will be necessary to eradicate cancer.

An active discussion followed Doctor Watt's paper.

Adjournment

The meeting was adjourned at 10:10 P.M.
Attendance was 74.
Collation was served.

Respectively submitted,
MICHAEL DIMAIO, M.D., *Secretary*

Cancer Conference for Physicians

at the Medical Library

Wednesday, March 18, at 2:00 P.M.

PROFESSIONAL SERVICE FOR PROFESSIONAL MEN

Industrial National's *Convertible* Living Trust

If you manage your own investments, you'll be interested in Industrial's *Convertible* Living Trust. This professional investment service can assist you in several vitally important ways.

- Takes care of the "paperwork" of investment activity, including the chores of record keeping; simplifies the preparation of various tax returns, and frees you from many other administrative duties.
- Protects you against the possibility of suffering severe financial losses if the press of other business, travel or illness causes you to be temporarily or permanently unable to handle your own investments.
- Assures maximum protection for your investments in the event that ultimate beneficiaries, members of your family, may be lacking in investment experience and ability.

Our *Convertible* Living Trust provides an extremely flexible property arrangement under which you and your beneficiaries receive financial services that conform to your actual needs and circumstances. For full information, with no obligation involved, write to our Trust Department, Box 1466, Providence, or call JAckson 1-9700, extension 534.

TRUST DEPARTMENT

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NATIONAL BANK

Member Federal Reserve System Member Federal Deposit Insurance Corporation

MILK COMMISSION REPORT — PROVIDENCE MEDICAL ASSOCIATION, 1958

CERTIFIED MILK in Providence during 1958 was obtained from the following farms: Cherry Hill Farm, North Beverly, Mass.; Hampshire Hills Farm, Wilton, N. H.; Hillside Farm, Cranston, R. I.

Through the courtesy and co-operation of the Boston Commission we have accepted their certification of one farm from Massachusetts and one from New Hampshire.

All of the herds are under State and Federal supervision and are free from Tuberculosis and Brucella abortus infections.

The Commission, five years ago, discontinued the sale of Raw Certified Milk in the Providence market to conform with the standards in most of the larger cities. The legal standard for Pasteurized Certified milk is still 500 colonies per ml. and the actual count on all samples examined by this Commission the past year was 39 colonies per ml.

Vitamin D Certified Milk is defined as whole Certified Milk rendered antirachitic by irradiation or by the addition of a concentrate and shall be of sufficient vitamin potency to show, by biological assay, a content of at least 400 U.S.P. units per quart.

The Wisconsin Alumni Research Foundation of Madison, Wisconsin, is doing the assaying of Vitamin D from Hillside Farm and the results have been entirely satisfactory. Two tests per year are required by this Commission.

Certified Fat-free (Skim) Milk, containing not more than 0.05 per cent butter fat, and with Vitamin A added has conformed to the standards set by the American Association of Medical Milk Commissions.

During the past year the Ring Test was performed once per month on Certified Milk and all tests were negative. This is the test acceptable to this Commission for determination of the presence of Brucella Agglutinins.

Out of about 600 samples of Certified Milk we have only found three (3) samples which had a Coliform colony count above 10 per ml.

During the past year the analysis of milk samples has been performed in the laboratories of the Rhode Island Quality Milk Association, a nonprofit organization established to promote the improvement and maintenance of the standards of milk, cream and milk products. The Board of Directors of this group is selected from consumers, producers, distributors and Public Health officials. The Rhode Island Medical Society is represented by one member on the board.

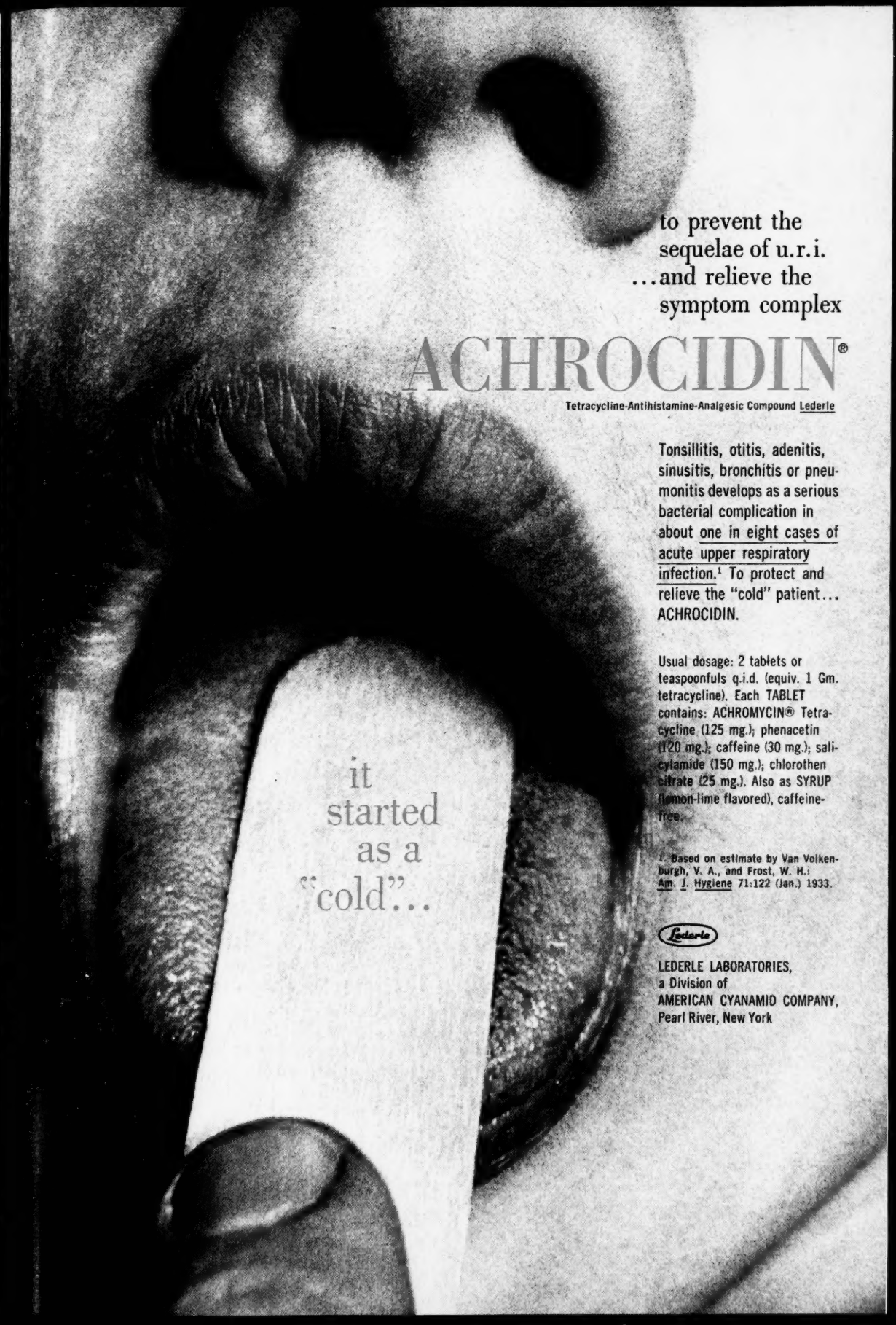
Two samples of Certified Milk from each dealer are examined twice weekly and more often if found necessary.

The Sanitary Inspector is appointed by the Commission to supervise the sanitary conditions at the farm and the physician is responsible for the health of the employees at the farm. Both of the men are licensed practitioners. The Veterinarian to the farm is also appointed by the Commission.

JOHN T. BARRETT, M.D., *Chairman*
REUBEN C. BATES, M.D., *Secretary*
BERTRAM H. BUXTON, JR., M.D.
HAROLD G. CALDER, M.D.
JOHN E. FARLEY, M.D.
JOHN P. GRADY, M.D.
MAURICE KAY, M.D.
HENRY E. UTTER, M.D.

MONTHLY AVERAGES OF CERTIFIED MILK FOR 1958

	CHERRY HILL H. P. HOOD			HAMPSHIRE HILLS			HILLSIDE FARM					
	Pasteurized			Pasteurized			Pasteurized			Skimmed with Vit. A & D		
	B.F.	T.S.	Bacteria per C.C.	B.F.	T.S.	Bacteria per C.C.	B.F.	T.S.	Bacteria per C.C.	B.F.	T.S.	Bacteria per C.C.
January	4.0	12.81	14	4.8	14.39	18	3.9	12.49	7	.06	8.66	9
February	4.1	12.93	19	4.3	13.56	166	3.9	12.46	15	.04	8.79	7
March	4.0	12.83	15	4.4	13.75	18	3.9	12.50	8	.04	8.79	6
April	4.0	12.79	14	4.0	12.91	75	4.2	12.79	10	.04	8.98	8
May	3.9	12.70	10	4.1	13.20	40	4.0	12.49	127	.03	8.90	9
June	4.0	12.76	24	4.1	12.90	119	4.0	12.55	83	.05	8.74	10
July	4.1	12.81	75	4.0	13.01	31	3.6	11.88	17	.02	8.54	17
August	4.0	12.75	14	4.2	13.31	57	4.1	12.38	29	.03	8.61	17
September	4.0	12.46	17	4.4	13.42	88	4.2	12.71	15	.05	8.69	22
October	4.0	12.93	35	4.3	13.55	44	4.2	12.70	12	.04	8.75	19
November	4.1	13.00	17	4.2	13.51	39	4.1	12.48	282	.03	8.63	22
December	4.0	13.06	6	4.6	13.62	5	4.0	12.41	162	.04	8.55	18
Yearly Average	4.0	12.81	22	4.3	13.42	58	4.0	12.48	64	.04	8.71	13



to prevent the sequelae of u.r.i. ...and relieve the symptom complex

ACHROCIDIN®

Tetracycline-Antihistamine-Analgesic Compound Lederle

Tonsillitis, otitis, adenitis, sinusitis, bronchitis or pneumonitis develops as a serious bacterial complication in about one in eight cases of acute upper respiratory infection.[1] To protect and relieve the "cold" patient... ACHROCIDIN.

Usual dosage: 2 tablets or teaspoonfuls q.i.d. (equiv. 1 Gm. tetracycline). Each TABLET contains: ACHROMYCIN® Tetracycline (125 mg.); phenacetin (120 mg.); caffeine (30 mg.); salicylamide (150 mg.); chlorothen citrate (25 mg.). Also as SYRUP (lemon-lime flavored), caffeine-free.

1. Based on estimate by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122 (Jan.) 1933.

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a Division of
AMERICAN CYANAMID COMPANY,
Pearl River, New York

THROUGH . . . the Microscope

Medical Care Spending Studied

In a recent issue of PROGRESS IN HEALTH SERVICES, the Health Information Foundation pointed out that spending for hospital care, physicians' services, and other health items last year took 5.3 per cent of the public's consumer-expenditure dollar—a 40 per cent increase over the 1929 figure of 3.7 per cent.

For this stepped-up outlay, however, Americans are receiving a greater quantity and variety of services, as well as vastly improved quality.

"In the past," said the Foundation, "pain, disability, and serious illness could be faced at relatively little expense — simply because there was relatively little that could be done for a sick person. Now pain and disability can often be avoided and death greatly postponed—but at the cost of more visits to physicians, more admission to hospitals, more use of drugs and other treatments."

The H.I.F. report singled out four trends that have contributed to the high quality of modern medical care, but at added cost to the consumers:

The average annual number of patient days in general and special hospitals in the United States rose from 0.88 in 1935 to 1.25 in 1956.

During that time the number of births in hospitals increased from just under 800,000 to about 3.8 million a year.

In 1928-31 an annual average of 2.6 out-of-hospital doctor visits was reported by white persons in this country, against a figure of 4.8 in 1957 for the entire population.

During the same period, the proportion of persons seeing a physician at least once a year climbed from 48 to 63 per cent.

For these and other reasons, private spending for medical care is today at an all-time high. The total outlay last year (not counting government, philanthropic and business expenditures) came to about 15 billion dollars, five times the total for 1929.

During that time, the Foundation reported, per capita spending for medical care also increased greatly, from about $24 to $89. Even when per capita figures are expressed in constant dollars, medical spending has almost doubled—from about $33 to $65—since 1929.

Some components of medical spending have risen faster than others. Hospital care, which claimed only 13.7 per cent of the consumer health dollar in 1929, last year accounted for a larger share than any other item—25.8 per cent.

Expenditures for physicians' services—which claimed 32.5 per cent of the medical dollar in 1929—took only 24.5 per cent in 1957. The proportion paid for dentists' services also declined, from 16.4 to 11.3 per cent.

Medical care, said the Foundation, "is now becoming a more important part of the American standard of living, while as an 'industry' it is becoming a more important part of the American economy."

George Bugbee, Foundation president, added that "recent increases in spending for medical care do not seem excessive." In fact, he said "many authorities believe that we do not yet spend enough for health items.

"In particular, more could be done to ward off illnesses through such preventive measures as regular physical checkups and immunizations."

American Philanthropy Sets New Record

Eighty-two gifts and bequests each of a million dollars or more and totaling over a half billion dollars were made to American philanthropy in 1958, it was revealed recently in the BULLETIN OF THE AMERICAN ASSOCIATION OF FUND-RAISING COUNSEL, INC.

The AAFRC compilation of "Big Gifts" cited a total of 544,840,902 dollars in 1958 of which 346,525,253 dollars, or 46 per cent was made in bequests; 60,458,000 dollars given by 23 living do-

continued on page 124

DIURETIC REGIMENS

DIAMOX

the HCO_3^- regulating diuretic

2. DOUBLE DRUG CONTROL OF INTENSIVE DIURESIS

Alternating DIAMOX with chloride-transport regulating diuretics achieves more dynamic diuresis than with either alone. By counterbalancing the tendency of these agents to produce systemic alkalosis, DIAMOX helps potentiate the diuretic effect, lessen risk of acquired tolerance and prolong intensive diuresis.

vanced congestive heart failure · refractory toxemia of pregnancy

ALSO EXCEPTIONALLY VALUABLE IN GLAUCOMA AND EPILEPSY

Although mode of action has not been exactly defined in either instance, clinical experience has repeatedly proved DIAMOX a safe, efficient means of reducing intraocular pressure in glaucoma and controlling seizures in both young and adult epileptics.

OERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

THROUGH THE MICROSCOPE

continued from page 120

nors, 13,279,000 dollars given by seven corporations, and 124,578,649 dollars by 42 foundations.

The compilation also showed that health and welfare received the greater proportion of the bequests, while education received the bulk of gifts made by living donors. Of the total, 296,263,781 dollars went to health and welfare causes, 159,802,121 dollars to education, 16,275,000 dollars to religious causes and 72,500,000 dollars to the fine arts.

As previously revealed by the Association, American philanthropy set a new record in 1958 with total contributions conservatively estimated at 7.1 billion dollars compared with $6.7 in 1957. Over-all contributions of individuals accounted for 5.6 billion dollars and corporate contributions are estimated to have reached 525 million dollars of the 1958 total.

The American Association of Fund-Raising Counsel is an organization of 27 firms which specialize in counseling on and management of fund campaigns for philanthropic organizations. Its membership covers the United States and Canada.

Health Insurance for the Aged

Of an estimated 15 million Americans 65 and over, Health Information Foundation reports, 39 per cent now carry some form of voluntary health insurance. The aged population is expected to reach 25 million by 1980.

The proportion of persons 65 and over with some form of voluntary health insurance increased by about half from 1952 to 1957, according to Health Information Foundation. In 1952 only 26 per cent of the aged were insured against the costs of hospital and/or medical expenses; by 1957 the proportion had risen to almost 39 per cent.

About three fifths of the aged population (65 and over) in this country are not insured against hospital and/or medical expenses. Among the uninsured, Health Information Foundation states, more than one-fourth have never tried to buy health insurance, and almost as many say they don't want it. Thirty-four per cent of the uninsured say they can't afford it, while 16 per cent say they do not believe they are eligible for it.

Thirty-nine per cent of the persons 65 and over in this country now have some type of voluntary health insurance. Of these, at least 93 per cent have hospitalization insurance, while 67 per cent are protected against in-hospital doctor bills and 21 per cent against physicians' charges outside the hospital.

Top-Level Committee Urged to Advise Congress on Medical Research

The head of one of the nation's largest pharmaceutical firms recently called for the establishment of a permanent, top-level committee to advise Congress and Federal agencies on medical research.

Francis Boyer, chairman of the Board of Smith Kline & French Laboratories, told the American Association for the Advancement of Science that the need for such a committee is "imperative" in view of the rapid expansion of Federal allocations for medical research. Boyer pointed out that in 1940, the U. S. government spent only 3 million dollars on medical research, but that last year the figure was 186 million dollars, with expectations that by 1970 the sum will reach 500 million dollars.

"It is scarcely worth laboring the point that the impact of federal expenditures upon medical research . . . has already been tremendous and inevitably will become almost 'thermonuclear,' " said Boyer. "There is to my mind an imperative need for an independent and, above all, a permanent group of consultants which will serve as a source of top-level advice and support to the Surgeon General, to the Secretary of Health, Education and Welfare, and to Congress itself."

Boyer said one of the committee's most important contributions would be educational—by informing the U. S. on the facts of medical research and by publicly backing the medical research programs of the government.

1958: A Record Year—1,133,654 Dollars for Medical Education

The million plus dollars received by the American Medical Education Foundation noted above established new records, both in amount and numbers of contributors. The 15% jump in income over 1957's total of $984,884 is certain to be matched by an equally large increase in the number of givers, although the final count of contributors is not, as yet, available.

The month of December also establishes a record for a thirty-day period with over $540,000 being received. The AMEF headquarters staff received compliments for its work in processing each of the 6,500 checks received during the month.

Outstanding efforts by many states and general increases in nearly all areas account for the large increase of the 1957 figures. In a news article prepared for wide distribution, A.M.A. president Dr. Gunnar Gundersen calls the result, ". . . evidence of organized medicine's increasing concern over the financial plight of its schools." In a special issue of THE FOUNDATION a complete listing of comparative totals by states will be given.

The distribution of grants to the medical schools will be made at a special ceremony during the Congress on Medical Education and Licensure on February 9.

National Cancer Institute Reports on Mitomycin C

The Cancer Chemotherapy National Service Center reported January 22 that Mitomycin C, an antibiotic reported as giving promising results in cancer treatment in Japan, has frequently produced

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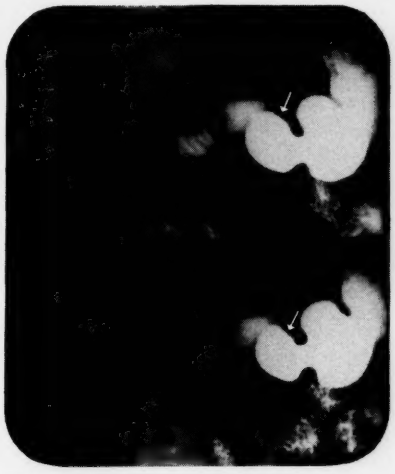
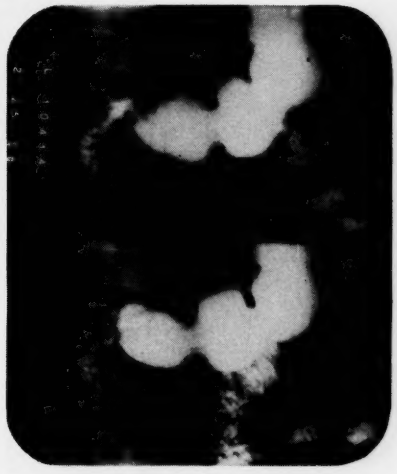
relieve the tension

—and control its G.I. sequelae



Patient A.S., age 53.
Intermittent crises of severe pain over 2 year period; hospital management with Sippy regimen provided relief of symptoms; however, symptoms recurred after each sojourn.



PATHIBAMATE *(Tabs. i.t.i.d. and H.S.)*; prompt relief of symptoms. Radiograph (21 days later) confirms healing of minute lesser curvature gastric ulcer crater.

predictable results in the control of tension and G.I. trauma

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Meprobamate with PATHILON® Tridihexethyl Chloride* LEDERLE

Used prophylactically in anticipation of periods of emotional stress, or therapeutically to relieve tension and curb hypermotility and hypersecretion, PATHIBAMATE is particularly well-formulated for the control of gastrointestinal disorders.

PATHIBAMATE combines Meprobamate (400 mg.) — the noted tranquilizer-muscle relaxant widely accepted for safe management of tension and anxiety states — and PATHILON (25 mg.) — an extremely well-tolerated anticholinergic long noted for prompt symptomatic relief based on peripheral atropine-like action with few side effects.

Indications:
Duodenal ulcer, gastric ulcer, intestinal colic, spastic and irritable colon, ileitis, esophageal spasm, anxiety neurosis with gastrointestinal symptoms, gastric hypermotility.

Supplied:
Bottles of 100 and 1,000. Each tablet (yellow, ½-scored) contains Meprobamate, 400 mg.; PATHILON Tridihexethyl Chloride, 25 mg.

Administration and Dosage:
1 tablet three times a day at mealtimes and 2 tablets at bedtime. Adjust dosage to patient response. Contraindicated in glaucoma, pyloric obstruction, and obstruction of the urinary bladder neck.

Also Available: PATHILON in four forms — ***Tablets*** of 25 mg., plain (pink) or with *phenobarbital*, 15 mg. (blue);
Parenteral — 10 mg./cc. — 1 cc. ampuls;
Pediatric Drops — 5 mg./cc. — dropper vials of 15 cc.

*PATHILON is now offered as tridihexethyl chloride instead of the iodide, an advantage permitting wider use, since the latter could interfere with the results of certain thyroid function tests.

Lederle LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

THROUGH THE MICROSCOPE

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major toxic reactions but seldom objective improvement in clinical trials in the United States.

The antibiotic has been under pilot clinical evaluation in this country as an anti-tumor agent in a substantial variety of tumors. In view of the effects observed in three current studies, it has not so far replaced the standard chemotherapeutic agents in any form of cancer, the Chemotherapy Center's announcement said. Full reports on the clinical trials will appear later in the scientific literature. Meanwhile, studies of the drug are being continued.

Japanese experience in treating human cancer with Mitomycin C was reported at a symposium on antibiotics in Washington, D. C. October 16, 1958. A limited quantity for clinical trials in this country was produced by Bristol Laboratories for the Cancer Chemotherapy National Service Center.

Public Apathy Cited as Cause For Paralytic Polio Rise in 1958

An alarming recurrence of polio epidemics in 1958 resulting from a dangerous vaccination slowdown was cited recently by the president of The National Foundation (originally for Infantile Paralysis), as one of two major events in his review of the 1958 health activities of the March of Dimes organization.

Mr. Basil O'Connor asserted that 1958's 43 per cent rise in paralytic polio over 1957 was due in large part to "carelessness and apathy on the part of the American public." Only half as much vaccine was shipped out for domestic use in 1958 as in 1957, he said.

"Nearly four years after the Salk vaccine was officially declared a safe and effective preventive against polio paralysis," said Mr. O'Connor, "we have seen tragic breakthroughs of disease that need never have happened. The worst was in Detroit during the summer and fall of 1958, with lesser epidemics in Virginia, West Virginia, New Jersey and Hawaii."

Most of the 1958 epidemics, said Mr. O'Connor, occurred in low-income areas where relatively small portions of the population had any vaccine. In Detroit, for instance, the bulk of polio victims were from low-income families. In Wise County, Va., he pointed out, only 15 to 25 per cent of the inhabitants, mostly miners' families in a depressed area, had received any vaccination, and no children born since the distribution of free vaccine by The National Foundation in 1955 had been vaccinated in any of the southwestern Virginia mining counties.

"A house-to-house survey made by the U.S. Public Health Service's Communicable Disease Center in Atlanta," said Mr. O'Connor, "showed that polio vaccination status frequently reflected family in-

concluded on page 129

Restore G. I. harmony

promptly—in virtually all diarrheas—with

DONNAGEL®

Robins

or DONNAGEL® with NEOMYCIN

These comprehensive formulae provide adsorbent, demulcent, antispasmodic and sedative effects—with or without an antibiotic, as may be desired. For prompt and more dependable control of virtually all diarrheas.

A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA

Ethical Pharmaceuticals of Merit since 1878

DONNAGEL: In each 30 cc. (1 fl. oz.):

Kaolin (90 gr.)	6.0 Gm.
Pectin (2 gr.)	142.8 mg.
Hyoscyamine sulfate	0.1037 mg.
Atropine sulfate	0.0194 mg.
Hyoscine hydrobromide	0.0065 mg.
Phenobarbital (1/4 gr.)	16.2 mg.

DONNAGEL WITH NEOMYCIN:

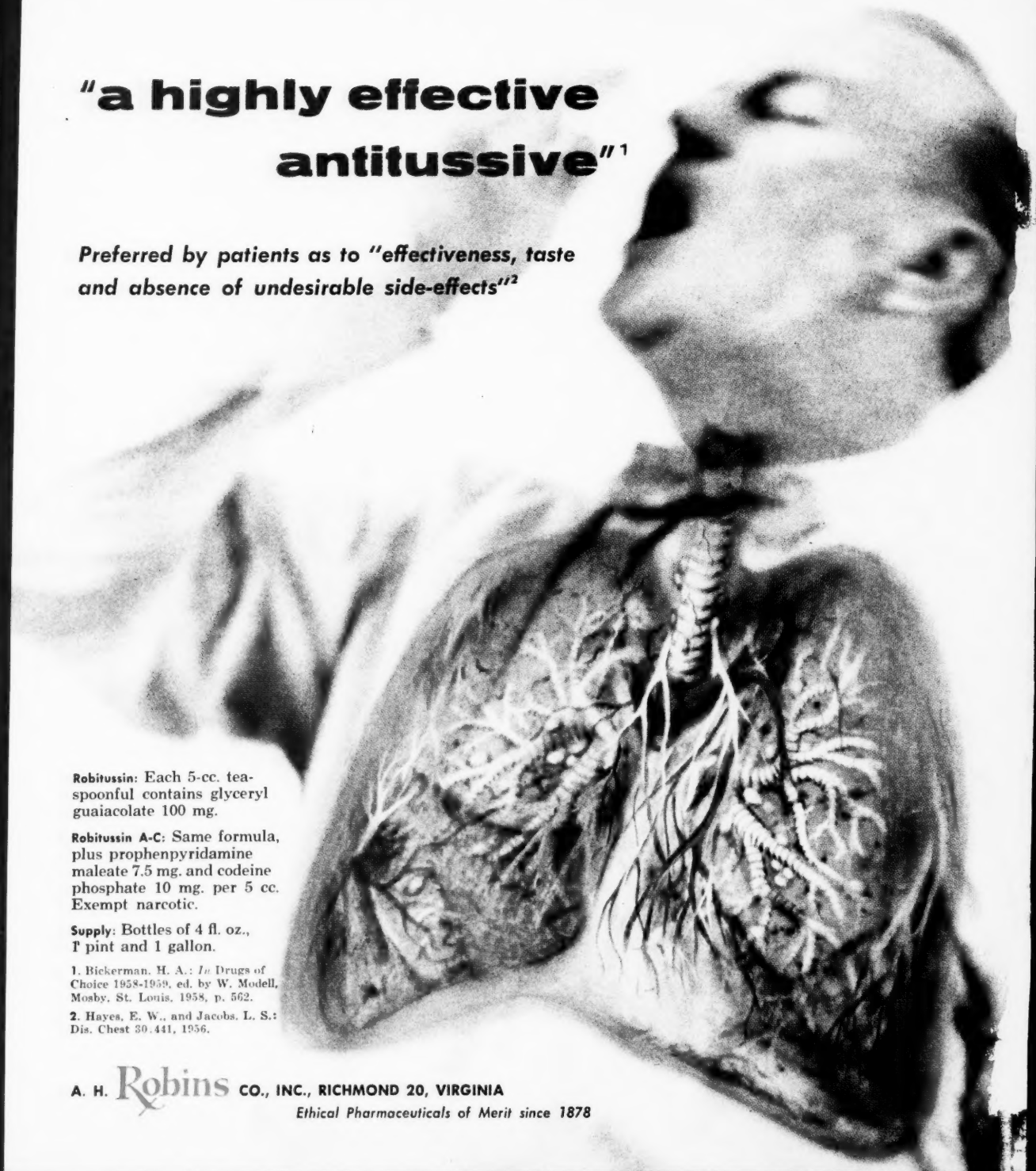
Same formula, plus

Neomycin sulfate ..... 300 mg.
(Equal to neomycin base, 210 mg.)

...for all ages...in all seasons

"a highly effective antitussive"[1]

Preferred by patients as to "effectiveness, taste and absence of undesirable side-effects"[2]



Robitussin: Each 5-cc. teaspoonful contains glyceryl guaiacolate 100 mg.

Robitussin A-C: Same formula, plus prophenpyridamine maleate 7.5 mg. and codeine phosphate 10 mg. per 5 cc. Exempt narcotic.

Supply: Bottles of 4 fl. oz., Pint and 1 gallon.

1. Bickerman, H. A.: *In* Drugs of Choice 1958-1959, ed. by W. Modell, Mosby, St. Louis, 1958, p. 562.

2. Hayes, E. W., and Jacobs, L. S.: Dis. Chest 30:441, 1956.

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ROBITUSSIN WITH ANTIHISTAMINE AND CODEINE

THROUGH THE MICROSCOPE

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come levels—high vaccination figures for high-income groups, low vaccination figures for low-income groups. In other words, through surveys health authorities can spot many of the low vaccination areas, especially in urban centers; it is now essential to see that people in these areas get vaccinated."

THE TELEPHONE THAT NEVER SLEEPS

concluded from page 101

the routine, without undue publicity. Maybe this excerpt from a letter from a patient aided by the Bureau will give you some idea of how people feel: "It is reassuring to know that someone is always on watch day and night, when real help is suddenly needed."

The fact that these operators have a pretty good sense of timing and use their own judgment is most important. Occasionally it is necessary for them to decide whether the doctor should be sent first, or the rescue squad or the police, or the ambulance; and sometimes their timing in this matter has made the difference between life and death. It is, I think, vital for all of us to know that this is our Bureau and to do as much as we can to make their work smoother. I asked Mrs. Beagan, when I was there, just what word she would like me to carry to you, and she said specifically that she would like, please, for the doctors to let the Bureau know where they are. She doesn't mean by this that you have to be on call all the time, necessarily, but at least let them know whether you *are* on call and, if so, where you are. I am sure that we, with a little bit of thought, can do this. I know that since I made my visit to the Bureau, I am more conscientious about notifying them when I leave the hospital, when I am going home, etc. All calls are filed and kept for a reasonable time. All have the time of receipt stamped on them by an electric timer and the disposition of each case.

This Medical Bureau, of which we are the masters so to speak, warrants the highest commendation not only from our Society but also from the public at large. We have never sought to publicize our good works here. Certainly we have been subject to some criticism in the past, but here, undoubtedly, is a work which warrants the highest regard of all the people who live in the area served by JAckson 1-2331—"the telephone that never sleeps."

Cancer Conference for Physicians

at the Medical Library

Wednesday, March 18, at 2:00 P.M.

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- *Effectiveness demonstrated in more than 6,000,000 patients since original product introduction (1956)*
- *Extremely wide range of action is particularly reassuring when culture and sensitivity testing is impractical*

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More than 90 clinical references attest to superiority and effectiveness of Cosa-Signemycin (Signemycin). Bibliography and professional information booklet available on request.

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DOCTORS ON HOSPITAL BOARDS

A *PRO* and *CON* Presentation of the Subject reprinted from NEW YORK MEDICINE, the Official Journal of the Medical Society of the County of New York

The Author. *Doctor Philip D. Allen is chief of Surgery, Knickerbocker Hospital, New York, and the immediate past president of the Medical Society of the County of New York.*

PRO

WITHOUT having had the opportunity to see the accompanying article on why physicians ought NOT to be elected to the board of trustees of a nonprofit, voluntary community hospital, I believe a valid argument can be made that they should have some *voice* and *vote* within the inner circles of policy-making in such an institution.

1. I believe the pendulum has, in some areas, swung too far toward the concept that nonprofit hospitals are community institutions and thus all control shall be vested in the layman citizens of the community who serve on the board of trustees. That the pendulum should swing is understandable. In the beginning the first hospitals were founded and created by physicians and medical societies for no one else in the community had the vision to realize the need for hospitals. Like insane asylums and poorhouses, the first hospitals were often regarded by the laymen of a community as pest houses; a place to put the sick and infirm out of the way and screen them from the community. In a past day of the great epidemics of the plague, typhoid fever, typhus, smallpox, etc., this was understandable.

2. Because the medical profession created the first hospitals, a natural step in evolution was that the physicians should control the hospitals, which they did for many, many years. This led some physicians to the idea that a hospital is only a "workshop" for doctors who should be supreme in their hospital domain, guiding not only the medical and surgical services but setting policy also. There may be some few doctors who will even argue for this today, though it is an untenable position.

3. The natural and drastic reaction to this idea that a hospital is only a workshop for a physician was to remove all control of policy from the physicians on the staff and "put them in their place"—to allow them only final decision only on matters of medical and surgical services.

This is the stage of thinking in many hospitals today. In the swing of the pendulum in this broad top-level policy picture, therefore, the physicians are sometimes regarded only on a level with the nursing staff, the building maintenance department, and the other housekeeping services, and ancillary diagnostic departments. To co-ordinate all the departments comes the hospital administrator—sometimes a physician, sometimes not—who reports to the trustees, as their eyes and ears, and, in turn, executes the policy decisions of the trustees.

4. When this stage arrives, the trustees become insulated and isolated from medical opinion and thought. Too often they take action in expanding hospital functions and services which have great and sometimes adverse impact upon the practice of medicine in a community. This is because, too often, they do not distinguish between physicians and think that the opinion of one physician (say the doctor-administrator) truly represents the thinking of the medical community as a whole or the medical staff within the hospital. This isolation from general medical thinking is the great weakness in the argument of those who say that physicians should not be elected to the board of trustees of a hospital. To thus argue is to say that only the lay citizens of the community—and not the physicians—are interested in, and should set policy, in matters of medicine.

5. I would argue that as the very minimum the physician who is chief of the medical board of the hospital should have voice and vote on the board of directors of the institution. If another physician on the staff, who is active in leadership in the local medical society, could be elected to the board of trustees, I believe that would be better. No one will argue that physicians should dominate the board but it is valid and vital that current medical thinking—both at the medical staff level and at the medical community level—should be available to the board of trustees and indeed, that this segment of the board medical interest have a voice and vote in the hospital's policy decisions.

6. On this last point, I would recommend that the physician members of the board hold their term of office not forever—as sometimes seems to be the case with hospital trustees—but only while they are active in their respective roles. When another physician becomes chairman of the medical board of the hospital he should replace his former counter-

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DOCTORS ON HOSPITAL BOARDS

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part. And when the physician of the staff who represents local medical thinking is no longer active in his medical society, he, too, should be replaced.

7. If these measures were undertaken I believe many frictions which now arise between hospitals and the medical community could be eliminated or at least minimized. The hospital trustees would have reliable information on which to make their decisions and the medical staff of the hospital and the medical community, as a whole, would better be aware of how the policy decisions were determined. Too often hospitals have the tendency to go their own independent way. Certainly the local medical society is also a responsible part of the community. Indeed, it held that role long before the idea of hospital trustees was ever conceived. To eliminate the medical profession from policy decisions by hospitals is unwise. Thus I argue that physicians should have voice and vote at the level of policy decision on the board of trustees.

The Author. *Mr. Lloyd Westcott is Chairman of the Board of Trustees of Hunterdon Medical Center, Flemington, New Jersey.*

CON

SHOULD DOCTORS be members of hospital boards of trustees? It has always astonished me to find how diverse, yet how firmly and heatedly held, are the opinions on this subject.

I am one of those who hold (as firmly and heatedly as anyone) the position that there should be no doctors on hospital boards. Before you discard this article in a rage let me try to explain.

A hospital exists for one purpose: to help bring to the community it serves the best medical care it is possible to attain. It is far more than a building and equipment. It is a living, functioning thing.

There are three basic groups of people involved. We think first of those that run the hospital—the department heads, the nurses, the technicians, the business office personnel, the service people—all under the direction of the administrator.

Then we think of the doctors—usually independent practitioners—who are responsible for medical care given.

Thirdly, there is the board of trustees.

The legal and moral responsibility for the effective functioning of this unique tripartite organization rests upon the board of trustees. They do not represent administration, nor do they represent the doctors. They represent the community served, and their final responsibility is to the community.

Given the grave responsibility that rests on the board, one might well ask why not have some doctors as board members? There are, I think, very cogent reasons why not.

The doctor's role in the functioning of the hospital is vital and it is *unique*. His point of view is special, his approach to the institution's problems is different from that of the administrator and of the trustees. It is a point of view that must be recognized, respected, and kept vocal and strong. To make one or a group of doctors minority members of a lay board hopelessly undermines the doctor's position. If he speaks, does he speak as a doctor or as a trustee? A question on which a doctor's judgment should be final becomes a question to be decided by a majority vote, with doctors in a minority position. Boards having doctors as members will almost surely find themselves making medical decisions.

And who are these doctors to be, and how will they be chosen? Will they not too often be the favorite doctors of the dominant board members? Does their board position secure favored staff advancement for them, or contrariwise, would it make such advancement difficult? Both would be suspect. Are they acceptable to the balance of the staff, and do they speak for them? If this is the case at the time of their appointment, what is the situation years later when they are old and loved but quite out of touch with current medical concepts?

And what of the administrator's position in dealing with both the board and staff when the board is an ill-defined mixture of both?

This does not mean that at least one doctor should not meet with the board and with the executive committee. On this I also feel strongly. To fail to provide for this would be as ill-advised as to have the board meet without the administrator. But the doctor who does meet with the board should speak as a doctor, for doctors. On certain questions his opinion should outweigh that of the entire board.

Who should this person be? The president of the staff—or the chief of staff—or the pathologist—or the director of the medical service—or even some doctor selected by the staff. Possibly we must create the role of medical director, giving at least part time responsibilities to one particularly qualified man. If we do, we must be prepared to pay out of hospital funds for this added labor and responsibility.

Having doctors as board members is better than having no communication between board and staff, but it is unsatisfactory at best, and will effectively prevent the establishment of any really sound working relationship.

The basic principle seems clear. There are three legs to the stool. Let's not mix them up.

BOOK REVIEWS

THE ETERNAL SEARCH. The Story of Man and His Drugs by Richard R. Mathison. G. P. Putnam's Sons, N.Y., 1958. $5.95

Just as we consider medicine and methods of treatment of past years primitive and outmoded, so may our present day medicine be considered by future generations. The old wives' tales, superstitions, purging, bloodletting, the plagues and pestilences, the quack remedies and the discoveries of smallpox vaccination, of bacteria, of anesthesia, of penicillin and other antibiotics—all are fascinatingly and often humorously told by the author.

The idea for the book came when he was browsing in San Francisco's Chinatown, in an herb doctor's shop filled with exotic and strange roots, plants and dried animals. He collected material from books, medical libraries, doctors, pharmacists and old people.

There are chapters on medicines used to relieve pain and to escape from one's problems, such as opium and alcohol, and on drugs used for the mentally deranged.

New discoveries of the past and recent years have been breakthroughs—"accidents by trained observers with enough understanding to consolidate their gains." There are many fields of inquiry and research to be pursued.

And it is well, now and again, to look back and study some of the old ways which may still be of use in the world today.

MERLE M. POTTER, M.D.

SURGERY IN WORLD WAR II. ORTHOPEDIC SURGERY IN THE MEDITERRANEAN THEATER OF OPERATIONS by Oscar P. Hampton, Jr., M.D. Medical Department, U.S. Army, Office of the Surgeon General, Wash., D.C., 1957. $4.00

This book presents a very excellent documentation on the subject of wartime orthopedic surgery as developed and practiced in the Mediterranean (previously the North African) Theater of Operations. It gives a short review of orthopedic practices in general use at the end of World War I which, essentially, called for the management of most compound fractures by skin traction for continuous traction. Occasional skeletal traction and plaster cast fixation were not in general use because freedom of joint motion was considered desirable. During World War I, great emphasis was placed upon the sterilization of a wound in compound fractures. Infection was then combated by local applications of such agents as a combination of bismuth subnitrate, iodoform, and paraffin. Others were treated by the elaborate irrigation method of Carrel-Dakin. However, evaluation at the end of the war indicated that a high incidence of infection had taken place together with a high incidence of malunion and nonunion of fractures.

The method of Carrel-Dakin continued to be used in civilian compound fractures and joint injuries following World War I, but the method was so tedious and troublesome to apply that it gradually became discontinued in favor of the method of H. Winnett Orr in which the wound was left open to secure drainage and the fracture was managed by a skeletal fixation in a plaster cast. Since the closed plaster technique was reported as giving rather satisfactory results by Trueta in the cases that were treated by this method in the Spanish Civil War, this particular method of treatment was given a thorough trial during the early part of the war in North Africa. The general plan of management of compound fractures in the North African Theater of Operations early in World War II was as follows:

> "After debridement in a forward hospital, the wound was dressed with vaseline gauze, the fracture was reduced, a plaster cast was applied in which skeletal transfixion pins were sometimes incorporated. The patient was then transferred to a general hospital where, in the absence of the specific indications to the contrary, the cast was left in place for 4-6 weeks. At the end of this time, it was assumed, wound healing would be progressing satisfactorily by granulation, and the fracture would also be well on its way toward healing. In theory, this was not an unsound policy. In practice, it proved unworkable, and the results were poor."

Patients often were rather febrile, the casts often disintegrated and were ineffective. At times, the circulation was threatened. The transfixion pins were often broken and infection was present about the pin openings and often the position was lost.

Because of these poor experiences, the closed plaster technique was gradually abandoned and a new technique for the handling of compound injuries was adopted.

In the Mediterranean Theater of Operations, of 111,125 wounded or injured in action, it is estimated that 79,000 or 71% of the total number sustained wounds of the extremities. A significant proportion of these required orthopedic management. The number of wounds of the extremities in this Theater approximately equaled the total number of wounded or injured in action in the entire Korean War. The closed plaster method of management of compound fractures was for all practical purposes written off early in 1944, because even with the modification which had been introduced, the results were not satisfactory. An analysis of the results furthermore showed that improvement could be accomplished only by a fundamental change in surgical concepts. By the time of the fall of Rome, in June of 1944, the consultant in surgery for the Mediterranean Theater was able to report that up to that time at least 25,000 soft tissue wounds had been closed by delayed primary suture on the indication of their gross appearance alone. Bacterial counts were not made in any of these injuries. In at least 95% of the soft tissue wounds managed by delayed primary suture, healing occurred with no loss of life or limb and without serious complication. The most usual explanation in the 5% of unsuccessful closures was failure to remove residual dead tissue in the deep recesses of the wound before the wound was sutured. Out of the entire studies and experiences, compound battle fractures gave the best end results when their management was conducted in the following sequence:

1. Initial wound surgery in the combat zone.
2. Reparative surgery in the communications zone.
3. Reconstructive surgery, if necessary, in the Zone of the Interior.

Treatment in the combat zone consisted of the application of sterile occlusive dressings, the control of hemorrhage by compression dressings, and in some cases by the application of a hemostat or a tourniquet, the administration of morphine in limited doses, plasma transfusions, emergency splinting and booster doses of tetanus toxoid and the institution of chemotherapy.

The second phase in the management of compound fractures consisted of excisional or reparative surgery or both. Four to seven days after wounding was regarded as the optimum time for the reparative stage of wound surgery and particularly for the closure of a compounding wound, though a maximum of ten days was still within permissible limits. From the physiological standpoint, the time lapse of four to seven days between initial and reparative surgery allowed for the sequestration of bits of residual devitalized tissue which had been overlooked or which could not be excised at initial wound surgery. By the end of this particular interval, it was possible to make a decision concerning the viability of questionably devitalized tissue which had been deliberately left *in situ* at the first operation. At this operation, all devitalized tissue, as stated, was removed and internal fixation *per se*, which was really not the objective of the reparative surgery program, was used when indicated and this was done by means of fixation by plating, multiple screws or wire.

The third phase of the surgery was always done in the Zone of the Interior and this consisted largely of the treatment of ununited fractures by refreshening of the bone ends with plating, bone grafting plus the attempt at repair of severed nerves with gapping together with tendon repairs and transplants.

After learning that the methods described were of value in the management of compound fractures, the same form of treatment was applied to the management of compound wounds of joints with equally good results.

With reference to amputations, throughout the 2½ years of line warfare in the Mediterranean Theater of Operations, the attitude toward amputation was one of extreme conservatism on the part of all the medical officers. Because of the tremendous possibilities of modern reconstructive surgery, the operation was almost never performed unless the extremity was damaged beyond salvage or unless after salvage had been attempted, conditions developed which endangered life or made further effort to save the limb futile. The indications which are given for amputation were as follows:

1. Trauma at wounding in which the extremities were blasted off, blown off, torn off or shot away.

concluded on page 140

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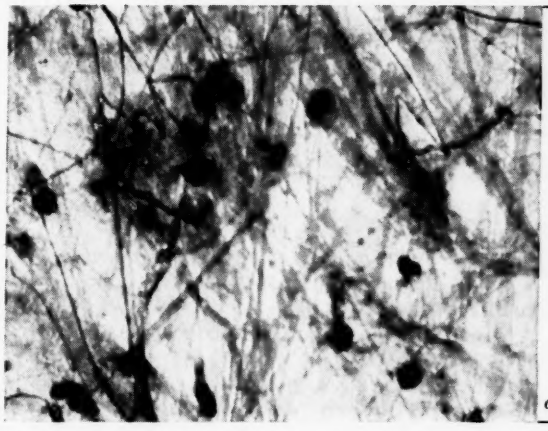

Indications: Mild cases of rheumatoid arthritis, tenosynovitis, synovitis, bursitis, mild spondylitis, myositis, fibrositis, neuritis and certain muscular strains.

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BOOK REVIEWS

concluded from page 137

2. Vascular insufficiency *per se*. In this type of case, the reason for the amputation was the interruption of major blood vessels with the resulting gangrene or impending gangrene.
3. Infection.
4. Disease including malignant tumors, trench foot, thrombosis, tuberculosis and other conditions.

The book also deals with non-combat orthopedic conditions which included fractures plus non-combat-incurred lesions including painful feet, painful backs, painful and unstable knees, recurrent dislocations of the shoulder and old fractures of the scaphoid bone. In these types of lesions, surgery was rarely done. Most of the soldiers affected were given limited duty.

Soldiers who could not be returned to active duty within 90-120 days were evacuated to the Zone of the Interior as soon as was compatible.

In conclusion, the subject of wartime orthopedic surgery is very well covered and well documented in the volume.

The book is recommended for reading to the medical student, general surgeon, orthopedic surgeon and traumatic surgeon.

A. A. SAVASTANO, M.D.

YOU CAN INCREASE YOUR HEART-POWER by Peter J. Steincrohn, M.D. Doubleday & Company, Garden City, N.Y., 1958. $4.95

Dr. Steincrohn has written a comprehensive book divided into fifteen major parts. Each part, dealing with one phase of real or imaginary heart disease as experienced by people, is explained by question and answer technique. Much of his material is obtained from articles he has written for his nationally syndicated columns.

This book has great appeal for the layman and could well be used by physicians as recommended reading for their patients needing better understanding of the cardiovascular system. It has helped several of my cardiac patients who have found themselves to have a happier, less worrisome existence and more able to follow a healthy medical regime.

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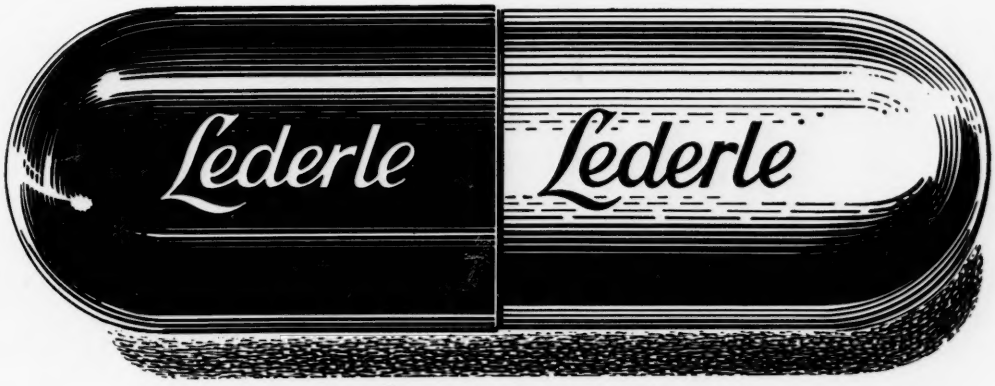

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